.....FRANCOMPUTER

OLIMPIADI '84

TUTTO TI 99

Tutto un mondo di programmi per Voi e il Vostro Home Computer Texas

N. 6

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TEXAS INSTRUMENTS
TI 99/4A
PROGRAMMI - SCAMBI - INSEGNAMENTO
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SPECIALE OLIMPIADI 1984

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«FRANCO» UN AMICO DEL VS. COMPUTER
Corso Fogazzaro 174 - Tel. 42.678 - VICENZA

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Ex. B.

```
100 CALL CLEAR :: CALL MAGNIFY(4)
110 FOR I=88 TO 140 STEP 4 :: READ S$ :: CALL CHAR(I,S$):: NEXT I
120 DATA 0101000307070703070706 0E1C181818B0B01090F080F0B080C0E07030303030
140 DATA 0101000307070703070706 0E1C181818808000FF8380F0B080C0E07030303030
150 DATA 0101000303030303070706 0E1C181818B0B01090F080FF8380C0E07030303030
160 DATA 0101000303030303070706 0E1C181818B6B61292F6FC808080C0E07030303030
170 DATA 0101000307070703070706 0E1C18181883870CF88080F0B080C0E07030303030
180 DATA 0101000303030303070706 0E1C181818B0B010FFF380808080C0E07030303030
190 DATA 00000000000000000006CFDFDF0C0703000000000000000183C76E6FFFF
191 DATA 0D0D08090F010F0D0103070E0C0C0C0C808000C0E0E0E0C0E0E0607038181818
192 DATA 010100FFC1010F0D0103070E0C0C0C0C808000C0E0E0E0C0E0E0607038181818
193 DATA 0D0D08090F01FFC10103070E0C0C0C0C808000C0C0C0C0C0E0E0607038181818
194 DATA 6D6D48496F3F01010103070E0C0C0C0C808000C0C0C0C0C0E0E0607038181818
195 DATA C1E1301F01010F0D0103070E0C0C0C0C808000C0E0E0E0C0E0E0607038181818
196 DATA 0D0D08FFCF0101010103070E0C0C0C0C808000C0C0C0C0C0E0E0607038181818
197 DATA 00000000000000183C6E67FFFF000000000000000000000000060F3FBFB30E0C0
200 OPTION BASE 1 :: DIM F(2),SP(2),FIG(2),COLP(2),PT(2),KO(2),X(2),C(2),KOS(2),
SCH(6,6)
210 CALL COLOR(5,9,1):: CALL COLOR(6,3,1):: CALL COLOR(7,11,1)
220 FOR I=64 TO 80 STEP 8 :: CALL CHAR(I,"FFFF"):: CALL CHAR(I+1,"0103060C183060
C0"):: CALL CHAR(I+2,"80C06030180C0603"):: NEXT I
230 CALL CHAR(75,"FFFFFFFFFFFFFFFF"):: CALL VCHAR(12,8,75,5):: CALL VCHAR(12,26,
75,5):: CALL HCHAR(14,9,64,17):: CALL HCHAR(15,9,80,17)
240 CALL HCHAR(16,9,72,17):: CALL VCHAR(16,3,75,5):: CALL VCHAR(16,31,75,5)
250 FOR Q=4 TO 7 :: R=21-Q :: CALL HCHAR(R,Q,65):: CALL HCHAR(R+1,Q,81):: CALL H
CHAR(R+2,Q,73):: NEXT Q
260 FOR Q=27 TO 30 :: R=Q-13 :: CALL HCHAR(R,Q,66):: CALL HCHAR(R+1,Q,82):: CALL
 HCHAR(R+2,Q,74):: NEXT Q
270 CALL HCHAR(18,4,64,27):: CALL HCHAR(19,4,80,27):: CALL HCHAR(20,4,72,27):: C
ALL HCHAR(22,1,75,96)
290 C(1)=2 :: C(2)=16
302 FOR I=1 TO 6 :: FOR J=1 TO 6 :: READ DT :: SCH(I,J)=DT :: NEXT J :: NEXT I
303 DATA 0,0,0,0,0,0,1,1,2,2,2,0,1,1,1,3,2,3
304 DATA 1,4,2,1,4,1,1,4,1,1,4,2,1,0,2,2,2,1
305 DISPLAY AT(5,12):0;0 :: RIP=1 :: OM=200 :: PT(1),PT(2)=0 :: UM,DM=1000
306 O=OM :: KOS(1),KOS(2)=0 :: DISPLAY AT(1,14):RIP :: CALL HCHAR(7,1,32,32):: C
ALL HCHAR(21,1,32,32)
310 SP(1)=2 :: SP(2)=3 :: FIG(1)=88 :: FIG(2)=116 :: COLP(1),COLP(2),KO(1),KO(2)
=0
```

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```
320 O=O+1 :: X(1)=96 :: X(2)=136 :: CALL SPRITE(£2,88,C(1),103,96,£3,116,C(2),10
3,136):: CALL DELSPRITE(£1)
325 FOR U=1 TO UM :: NEXT U :: CALL SOUND(DM,440,1)
330 FOR I=1 TO 2 :: IF F(I)<0 THEN F(I)=F(I)+1 :: GOTO 500
340 CALL KEY(I,K,S):: IF K=18 THEN GOSUB 600 :: F(I)=F(I)+1 :: GOTO 500
350 IF F(I)=0 THEN GOSUB 600 :: GOSUB 700 :: GOTO 500
360 CALL JOYST(I,A,B):: IF A=4*SGN(I-1.5)THEN 500
370 IF A=0 AND B=0 THEN FIG(I)=88+28*(I-1):: COLP(I)=1 :: GOTO 430
380 IF A=0 AND B=4 AND COLP(I)<>4 THEN FIG(I)=100+28*(I-1):: COLP(I)=4 :: GOTO 4
30
390 IF A=0 AND B=-4 AND COLP(I)<>3 THEN FIG(I)=96+28*(I-1):: COLP(I)=3 :: GOTO 4
30
400 IF B=0 AND COLP(I)<>2 THEN FIG(I)=92+28*(I-1):: COLP(I)=2 :: GOTO 430
410 IF B=4 AND COLP(I)<>5 THEN COLP(I)=5 :: FIG(I)=104+28*(I-1):: GOTO 430
420 IF B=-4 AND COLP(I)<>6 THEN COLP(I)=6 :: FIG(I)=108+(I-1)*28
430 IF SP(3-I)<>1 THEN SP(I)=1 :: CALL DELSPRITE(£I+1):: CALL SPRITE(£1,FIG(I),C
(I),103,X(I))ELSE CALL PATTERN(£I+1,FIG(I))
440 F(I)=-F(I):: DIST=ABS(X(1)-X(2)):: V1=ABS(18-DIST):: PREC=1-V1/6 :: IF PREC<
0 THEN PREC=0
460 A1=INT((FIG(I)-60-28*I)/4)+1 :: A2=INT((FIG(3-I)-60-(3-I)*28)/4)+1 :: PU=INT
(-F(I)*SCH(A1,A2)*PREC):: CALL SUONA(PU)
465 IF PU>0 THEN F(3-I)=-INT(PU/2):: KO(I)=KO(I)+PU :: KO(3-I)=0
470 PT(I)=PT(I)+PU :: IF KO(I)>6 THEN 800
480 DISPLAY AT(5,12):PT(1);PT(2)
500 NEXT I :: O=O-1 :: IF O<62 THEN DISPLAY AT(21,26):INT(O/2)
510 IF O=0 THEN 880 ELSE 330
600 FIG(I)=88+28*(I-1)
610 IF SP(I)=1 THEN SP(I)=I+1 :: CALL DELSPRITE(£1):: CALL SPRITE(£I+1,FIG(I),C(
I),103,X(I))ELSE CALL PATTERN(£I+1,FIG(I))
620 RETURN
700 COLP(I)=1 :: CALL JOYST(I,A,B):: IF A=0 THEN RETURN
710 X(I)=X(I)+A/2
720 IF X(I)<44 OR X(I)>190 OR ABS(X(I)-X(3-I))<12 THEN X(I)=X(I)-A/2 ELSE CALL L
OCATE(£I+1,103,X(I))
730 RETURN
800 UK=1 :: CT=0 :: U=3-I :: FIG(U)=112+28*(U-1):: IF SP(U)=1 THEN CALL DELSPRIT
E(£1):: SP(U)=U+1 :: CALL SPRITE(£U+1,FIG(U),C(U),103,X(U))
805 MIH=12 :: CALL PATTERN(£SP(U),FIG(U)):: KOS(U)=KOS(U)+1 :: IF KOS(U)=3 THEN
850
810 FOR J=MIH TO KO(I)*2 STEP UK :: DISPLAY AT(7,14):CT :: IF CT=10 THEN 850 ELS
E CT=CT+1
820 FOR Y=1 TO 300 :: NEXT Y :: O=O-2 :: IF O<=0 THEN 830 ELSE IF O<62 THEN DISP
LAY AT(21,26):INT(O/2)
821 IF J=14+KOS(U)*4 THEN 825
822 NEXT J :: GOTO 830
825 UK=2 :: MIH=15+KOS(U)*4 :: GOTO 810
830 PT(I)=PT(I)+10 :: KO(1),KO(2)=0 :: DISPLAY AT(5,12):PT(1);PT(2):: CALL HCHAR
(7,11,32,8):: UM=1 :: DM=1 :: IF O<=0 THEN 880 ELSE 320
850 GOTO 860
860 CALL KEY(3,K,S):: IF S=0 THEN 860 ELSE CALL HCHAR(5,32,160):: GOTO 305
880 CALL SOUND(1000,440,0):: IF RIP=3 THEN 850 ELSE RIP=RIP+1 :: DM=1000 :: UM=3
000 :: GOTO 306
900 SUB SUONA(R):: H=10000 :: IF R>.7 THEN H=1760 :: IF R>1.9 THEN H=880 :: IF R
>3.7 THEN H=440 :: IF R>7.6 THEN H=220 :: IF R>11 THEN H=110
910 CALL SOUND(100,H,0):: SUBEND
```

A T L E T I C A

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EX. B.

100 METRI
200 METRI
400 METRI

k = #

```
10 CALL CLEAR :: DISPLAY AT(3,3):"ATLETICA 1
            100,200,400 METRI" :: FOR I=1 TO 780 :: NEXT I
90 ON WARNING NEXT
100 OPTION BASE 1 :: DIM K(2),TA(3),AR(3),NOM$(3)
110 NOM$(1)="BIANCO" :: NOM$(2)="NERO" :: NOM$(3)="COMPUTER"
130 CALL DELSPRITE(ALL):: CALL CLEAR
133 DISPLAY AT(22,3):"SCEGLI QUALE GARA FARE"
135 ACCEPT AT(24,5)SIZE(3)VALIDATE("1240"):GARA :: CALL COLOR(14,12,9):: CALL CH
AR(136,"FFFF")
140 CALL MAGNIFY(3):: IF GARA=100 THEN VP=-3 :: VS=6 :: CALL CLEAR :: GOSUB 500
ELSE 150
141 GOSUB 10000 :: BAS=(TA(AR(3))-TA(AR(1)))/90+7.8
142 FOR I=1 TO 3 :: DISPLAY AT(I*2,5):USING 145:I,NOM$(AR(I)),TA(AR(I))/10+BAS :
: NEXT I
143 IF GARA<>400 THEN DISPLAY AT(8,5):USING " VENTO ££.££":VEN*3
144 GOTO 133
145 IMAGE £! £££££££££££ ££.££
150 IF GARA=200 THEN VS=4 :: VP=-4 :: CALL CLEAR :: GOSUB 500 ELSE 160
151 GOSUB 10000 :: BAS=16.7 :: GOTO 142
160 IF GARA=400 THEN VS=2 :: VP=-5 :: CALL CLEAR :: GOSUB 500 ELSE 135
161 GOSUB 10000 :: BAS=38 :: GOTO 142
170 GOTO 135
500 REM SPRINT
510 CALL HCHAR(14,1,136,32*6):: CALL PATCORSA :: CALL CHAR(112,"0000000000030F1F
1F1F1D1D3973E6C60000000000E0F0F8FB9B988888080808")
520 CALL CHAR(92,RPT$("03",16)&RPT$("C0",16)):: CALL SPRITE(£4,92,5,90,64,£5,92,
5,90,192)
530 CALL SPRITE(£3,112,14,94,20,£2,112,2,102,20,£1,112,16,110,20):: FOR I=1 TO 1
000 :: NEXT I :: CALL SOUND(200,-6,0)
535 RANDOMIZE :: CALL HCHAR(1,1,32,32*13)
540 I=1 :: T=0 :: CALL MOTION(£4,0,VP,£5,0,VP,£3,0,VS)
550 CALL KEY(I,K1,S):: IF K1=K(I)THEN CALL MOTION(£3,0,VS-1.7*RND,£I,0,0)ELSE CA
LL MOTION(£I,0,VS):: K(I)=K1
560 F=F+1 :: IF F=5 THEN F=1
570 FIG=92+F*4 :: CALL PATTERN(£1,FIG,£2,FIG,£3,FIG):: CALL POSITION(£I,Y,X):: C
ALL COINC(£3,96,240,4,TEST):: IF TEST=-1 OR X>236 THEN 590
580 T=T+.5 :: I=3-I :: GOTO 550
590 CALL MOTION(£1,0,0,£2,0,0,£3,0,0,£4,0,0,£5,0,0)
600 CALL PATTERN(£1,F*4+92):: F=F+1 :: IF F=5 THEN F=1
610 CALL PATTERN(£2,F*4+92):: F=F+1 :: IF F=5 THEN F=1
620 CALL PATTERN(£3,92+F*4)
630 RETURN
10000 CALL POSITION(£1,A,TA(1),£2,A,TA(2),£3,A,TA(3))
10010 RANDOMIZE :: TV=MAX(TA(1),TA(2)):: TV=MAX(TV,TA(3)):: VEN=2*RND-1 :: T=INT
(T)+RND-VEN :: TA(1)=T+(TV-TA(1))/10
10020 TA(2)=T+(TV-TA(2))/10 :: TA(3)=T+(TV-TA(3))/10 :: IF TA(1)>TA(2)THEN AR(1)
=2 :: AR(2)=1 ELSE AR(1)=1 :: AR(2)=2
10030 IF TA(3)<TA(AR(1))THEN AR(3)=AR(2):: AR(2)=AR(1):: AR(1)=3 :: RETURN
10040 IF TA(3)<TA(AR(2))THEN AR(3)=AR(2):: AR(2)=3 :: RETURN ELSE AR(3)=3 :: RET
URN
20000 SUB PATCORSA
20010 CALL CHAR(96,"0101000F1B332323070E1CF8F000000080800080CCF8A080C0E070381818
1818")
20020 CALL CHAR(100,"010100070707070707030F0F0303038080008080F08080808080808")
20030 CALL CHAR(104,"010100070F0B0B0703030307070E0C0C808000808080C080C0E060E08")
20040 CALL CHAR(108,"010100071B131303070F1C3870E0C0008080008 8D0A080F8F818181818"
)
20050 SUBEND
```

A T L E T I C A

SALTO IN LUNGO
SALTO IN LUNGO
SALTO IN LUNGO

OLIMPIADI '84

EX. B.

```
90 A$="SALTO IN LUNGO "
95 B$=" "
100 ON WARNING NEXT :: RANDOMIZE :: CALL DELSPRITE(ALL)
110 CALL CLEAR :: PRINT A$ :: INPUT "LIVELLO DELLA GARA: ":U :: PED=6.7-U*.3 ::
IF U=0 THEN PED=5.6+RND*.8
120 CALL CLEAR
130 CALL COLOR(14,12,9)
140 CALL MAGNIFY(3)
150 CALL CHAR(137,"FF000000000000FF"):: CALL CHAR(138,"FF0003060C1800FF"):: CALL
 HCHAR(14,1,137,20):: CALL HCHAR(14,17,138)
160 CALL COLOR(13,15,1):: CALL CHAR(128,"FFFEFCF8F0E0C0800103070F1F3F7FFFFFFFFFF
FFFFFFFFF")
170 CALL COLOR(12,9,15):: CALL CHAR(120,"FFFEFCF8F0E0C080")
180 FOR I=1 TO 3 :: CALL HCHAR(12+I,23-I,130,10):: NEXT I
190 CALL HCHAR(13,32,128):: CALL HCHAR(14,31,128):: CALL HCHAR(15,30,128):: CALL
 HCHAR(13,21,129):: CALL HCHAR(15,19,129)
200 CALL HCHAR(14,20,120)
210 CALL CHAR(112,"00030300070E0F0E0F0F070000000000000000000F800C00000E0E07030381
818")
220 F=1 :: CALL PATCORSA :: V=1 :: CALL SPRITE(£1,96,16,94,1,0,0):: K(1)=-1
230 CALL KEY(1,K1,S):: IF K1<>K(1)THEN V=V+1 :: CALL MOTION(£1,0,V):: K(1)=K1
240 F=F+1 :: IF F=5 THEN F=1
250 CALL PATTERN(£1,92+4*F):: CALL POSITION(£1,Y,X):: IF X>248 THEN CALL NS :: G
OTO 330 ELSE CALL JOYST(1,AV,SU):: IF SU<>4 THEN 230
260 CALL POSITION(£1,Y,BAT):: CALL PATTERN(£1,104):: ALT=-(6+RND*3+ABS(F-2))
270 CALL MOTION(£1,ALT,V):: ALT=ALT+1.5 :: CALL JOYST(1,AV,SU):: IF AV=4 THEN CA
LL PATTERN(£1,108):: DALT=1+ABS(ALT)/10 :: GOTO 290
280 CALL POSITION(£1,Y,X):: IF Y>93 THEN 310 ELSE 270
290 CALL MOTION(£1,ALT,V):: ALT=ALT+DALT :: CALL JOYST(1,AV,SU):: IF SU=-4 THEN
CALL PATTERN(£1,112):: DALT=2 :: F=5
300 CALL POSITION(£1,Y,X):: IF Y<94 THEN 290
310 CALL MOTION(£1,0,0):: CALL POSITION(£1,Y,X):: IF F=5 THEN X=X+16
320 DISPLAY AT(5,14):USING "£.££":(X-120+RND)/50+PED :: IF BAT>120 THEN DISPLAY
AT(7,14):"NULLO" ELSE DISPLAY AT(7,14):"     "
330 CALL KEY(3,K1,S):: IF K1=7 THEN 100 ELSE IF S=0 THEN 330 ELSE 220
340 SUB PATCORSA
350 CALL CHAR(96,"0101000F1B332323070E1CF8F0000000808000080CCF8A080C0E07038181818
18")
360 CALL CHAR(100,"0101000707070707070303 0F0F0303038080008080808F0808080808")
370 CALL CHAR(104,"010100070F0B0B0703030307070E0C0C8080008080808C080C0E060E08")
380 CALL CHAR(108,"010100071B131303070F1C3870E0C00080800088D0A080F8F818181818")
390 SUBEND
400 SUB NS
410 CALL DELSPRITE(£1):: DISPLAY AT(5,14):"*.**"
420 SUBEND
```

A T L E T I C A

OLIMPIADI '84

SALTO IN ALTO
SALTO IN ALTO
SALTO IN ALTO

EX. B

```
20 CALL CLEAR
22 CALL SCREEN(12)
24 PRINT : : :"   SALTO IN ALTO": : :
100 ON WARNING NEXT :: INPUT "LIVELLO DI DIFFICOLTA': ":BSA :: BAS=304-BSA*4
110 CALL CLEAR :: CALL COLOR(14,12,9)
120 CALL MAGNIFY(3)
130 OPTION BASE 1 :: DIM K(2)
140 CALL CHAR(136,"FFC0A09088848281804020100804020 1FF01010101010101FF"):: CALL C
HAR(140,"0101010101010101")
150 CALL CHAR(112,"0000000000001F3F70E0C"&RPT$("0",23)&"FBFB087")
160 CALL CHAR(116,"181C0E07030303030303"&RPT$("0",28)&"FBFB08106")
170 CALL CHAR(120,RPT$("0",32)&RPT$("01",16)):: CALL CHAR(124,"8040201008040201"
&RPT$("0",32)&"8040201008040201")
180 CALL SCREEN(9):: FOR I=8 TO 24 :: CALL HCHAR(I,8+I,137):: NEXT I
190 CALL HCHAR(11,20,136):: CALL HCHAR(11,21,139,5):: CALL HCHAR(18,27,139,5)::
CALL HCHAR(18,26,140):: CALL HCHAR(18,32,138)
200 FOR I=12 TO 17 :: CALL HCHAR(I,I+9,137):: NEXT I :: FOR I=11 TO 17 :: CALL H
CHAR(I,I+15,137):: NEXT I
210 CALL HCHAR(19,27,139,6):: CALL HCHAR(8,1,139,15)
220 CALL SPRITE(£1,120,5,120,176,£2,120,5,104,176,£3,120,5,88,176)
230 CALL SPRITE(£9,120,5,88,144,£10,120,5,72,144,£11,120,5,56,144)
240 RANDOMIZE :: CALL SPRITE(£7,124,2,80,160,£8,124,2,96,176)
250 CALL PATCORSA
260 ACCEPT AT(1,14)BEEP:MIS
270 ALT=BAS-MIS*100
280 CALL LOCATE(£7,ALT,160,£8,ALT+16,176)
285 DVS=2 :: V=0 :: CALL DELSPRITE(£4,£5):: CALL SPRITE(£6,96,16,110,10)
287 CALL KEY(1,K1,S):: IF S=0 THEN 287
290 CALL KEY(1,K1,S):: IF K1<>K(1)THEN K(1)=K1 :: V=V+1 :: CALL MOTION(£6,0,V)
300 F=F+1 :: IF F=5 THEN F=1
310 CALL PATTERN(£6,92+4*F):: CALL POSITION(£6,Y,X):: IF X>162 THEN CALL SALTO(A
LT):: GOTO 400
320 CALL JOYST(1,AV,SU):: IF SU<>4 THEN 290 ELSE CALL POSITION(£6,Y,X):: IF X<13
6 THEN GOTO 400
330 VS=-V+(X-166)/4+RND*3+ABS(F-2):: VA=4+(172-X)/4 :: CALL PATTERN(£6,104)
340 CALL MOTION(£6,VS,VA/2):: CALL POSITION(£6,Y,X):: IF Y>110 THEN CALL SALTO(1
):: GOTO 400
350 CALL JOYST(1,AV,SU):: IF AV=4 THEN CALL PATTERN(£6,112):: DVS=ABS(VS-8)/3+1
ELSE DVS=DVS+.8 :: VS=VS+DVS :: GOTO 340
360 CALL MOTION(£6,VS,VA):: CALL POSITION(£6,Y,X):: IF Y>96 THEN 380
370 CALL JOYST(1,AV,SU):: IF SU=-4 THEN CALL PATTERN(£6,116)ELSE VS=VS+DVS :: GO
TO 360
380 CALL SALTO(ALT)
390 VS=VS+3 :: CALL MOTION(£6,VS,VA/2):: CALL POSITION(£6,Y,X):: IF Y>96 THEN 40
0 ELSE 390
400 CALL SPRITE(£6,116,16,Y,X,0,0):: CALL KEY(3,K1,S):: IF K1=7 THEN 250 ELSE IF
 S=0 THEN 400 ELSE 280
410 SUB SALTO(VAR):: CALL POSITION(£6,Y,X)
415 YC=Y+10 :: VA=VAR+MIN(24,X-160)+6
420 IF YC>VA THEN CALL LOCATE(£7,100,148,£8,116,164):: SUBEXIT
425 CALL SPRITE(£4,124,2,VAR,160,£5,124,2,VAR+16,176):: CALL DELSPRITE(£7,£8)
430 SUBEND
440 SUB PATCORSA
450 CALL CHAR(96,"0101000F1B332323070E1CF8F0000000808000 80CCF8A080C0E07038181818
18")
460 CALL CHAR(100,"0101000707070707070303 0F0F0303038080008080 80F080808080808")
470 CALL CHAR(104,"010100070F0B0B0703030307070E0C0C808000808080C080C0E060E08")
480 CALL CHAR(108,"010100071B131303070F1C3870E0C00080800088D0A080F8F818181818")
490 SUBEND
```

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A T L E T I C A

OLIMPIADI '84

400 OSTACOLI
400 OSTACOLI
400 OSTACOLI

EX. B.

```
30 CALL CLEAR
35 CALL SCREEN(12)
40 PRINT "    ATLETICA 2   ": : : :"     400 ostacoli": : : :
50 FOR I=1 TO 900 :: NEXT I
100 OPTION BASE 1 :: DIM K(2),SALTO(3),TA(3),AR(3),NOM$(3)
110 ON WARNING NEXT :: NOM$(1)="BIANCO" :: NOM$(2)="NERO" :: NOM$(3)="COMPUTER"
130 CALL DELSPRITE(ALL):: CALL CLEAR
135 CALL COLOR(14,12,9):: CALL CHAR(136,"FFFF")
140 CALL MAGNIFY(3)
170 VS=2 :: VP=-5 :: GOSUB 700
175 BAS=43
180 FOR I=1 TO 3 :: DISPLAY AT(I*2,5):USING 190:I,NOM$(AR(I)),TA(AR(I))/10+BAS :
: NEXT I
190 IMAGE £¦£££££££££££ ££.££
200 CALL KEY(3,KEY,STATO):: IF KEY<>0 THEN 170 ELSE 200
700 CALL HCHAR(14,1,136,32*6):: CALL CHAR(112,"0606003F5E9F1FFCFC000000000000000
00000F000FEFE000000")
710 OST$="010305091121418F" :: CALL CHAR(116,RPT$("0",16)&OST$&OST$&"00"):: CALL
 CHAR(120,RPT$("0",16)&"010101010101010F"&OST$&"00")
720 CALL PATCORSA :: CALL SPRITE(£4,116,5,98,64,£5,120,5,114,48,£6,116,5,98,192,
£7,120,5,114,176)
730 CALL SPRITE(£1,96,16,110,20,£2,96,2,102,24,£3,96,14,94,28):: CALL HCHAR(1,1,
32,32*13):: FOR I=1 TO 1000 :: NEXT I :: I=1 :: T=0
740 CALL SOUND(200,-6,0):: CALL MOTION(£4,0,VP,£5,0,VP,£6,0,VP,£7,0,VP,£3,0,VS/2
)
750 CALL COINC(£3,£4,10,TEST1):: CALL COINC(£3,£6,10,TEST2):: IF TEST1=-1 OR TES
T2=-1 THEN CALL PATTERN(£3,112):: SALTO(3)=1 ELSE SALTO(3)=0
751 CALL MOTION(£3,0,1-SALTO(3))
760 CALL JOYST(I,W,SU):: IF SU=4 THEN CALL MOTION(£I,0,0):: CALL PATTERN(£I,112)
:: SALTO(I)=1 :: GOTO 780
765 CALL COINC(£I,£6-I,12,TEST1):: CALL COINC(£I,£8-I,12,TEST2):: IF TEST1 OR TE
ST2 THEN SALTO(I)=1 :: CALL MOTION(£I,0,VP/2):: GOTO 780
770 SALTO(I)=0 :: CALL KEY(I,K1,S):: IF K1=K(I)THEN CALL MOTION(£I,0,0)ELSE CALL
 MOTION(£I,0,VS):: K(I)=K1
780 F=F+1 :: IF F=5 THEN F=1
790 FOR J=1 TO 3 :: IF SALTO(J)=0 THEN CALL PATTERN(£J,92+F*4)
800 NEXT J
805 I=3-I :: T=T+.5 :: CALL POSITION(£I,Y,A1,£3,Y,A2):: IF A1>236 OR A2>236 THEN
 810 ELSE 750
810 CALL MOTION(£1,0,0,£2,0,0,£3,0,0,£4,0,0,£5,0,0,£6,0,0,£7,0,0)
830 CALL POSITION(£1,A,TA(1),£2,A,TA(2),£3,A,TA(3)):: TV=MAX(TA(1),TA(2)):: TV=M
AX(TV,TA(3))
840 T=T+RND :: FOR I=1 TO 3 :: TA(I)=T+(TV-TA(I))/10 :: NEXT I
850 IF TA(1)>TA(2)THEN AR(1)=2 :: AR(2)=1 ELSE AR(1)=1 :: AR(2)=2
860 IF TA(3)<TA(AR(1))THEN AR(3)=AR(2):: AR(2)=AR(1):: AR(1)=3 :: RETURN
870 IF TA(3)<TA(AR(2))THEN AR(3)=AR(2):: AR(2)=3 :: RETURN ELSE AR(3)=3 :: RETUR
N
20000 SUB PATCORSA
20010 CALL CHAR(96,"0101000F1B332323070E1CF8F000000080800080CCF8A080C0E070381818
1818")
20020 CALL CHAR(100,"010100070707070707030F0F0303038080008080F08080808080808")
20030 CALL CHAR(104,"010100070F0B0B0703030307070E0C0C808000808080C080C0E060E08")
20040 CALL CHAR(108,"010100071B131303070F1C3870E0C0008080008D0A080F8F818181818"
)
20050 SUBEND
```

DECATHLON, DECATHLON, DECATHLON, DECATHLON
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100 CALL CLEAR
110 RANDOMIZE
120 DEF ST=S(1)+S(2)+S(3)+S(4)+S(5)+S(6)+S(7)+S(8)
130 READ A,A$
140 IF A=0 THEN 220
150 CALL CHAR(A,A$)
160 GOTO 130
170 DATA 103,0,104,FF7F3F1F0F070301,105,80C0E0F0F8FCFEFF,106,FFFEFCF8F0E0C08,107
,0103070F1F3F7FFF
180 DATA 91,3C4281818181423C,92,0304080808080403,93,C3241818181824C3,94,C0201010
101020C,38,80C0A09088848281
190 DATA 39,808080808080808,40,8040201008040201,41,101010101010101,42,87483F38E8
D41211,43,000000FF,0,0
220 A$=CHR$(91)&CHR$(91)&CHR$(91)
230 B$=CHR$(92)&CHR$(93)&CHR$(94)
240 PRINT TAB(6);A$;TAB(20);A$:TAB(6);B$;TAB(20);B$:::TAB(10);"DECATHLON":::TAB(
6);A$;TAB(20);A$
245 PRINT TAB(6);B$;TAB(20);B$:::::::TAB(7);"FROM PEWTERWARE"
260 GOSUB 4790
280 CALL CLEAR
290 INPUT "NUMBER OF ATHLETES:1-8 ":N
300 IF (N<1)+(N>8)=-1 THEN 290
310 PRINT ::"INPUT NAMES UP TO 7 LETTERS"::
320 FOR A=1 TO N
325 PRINT
330 INPUT "ATHLETE £"&STR$(A)&" ":NAME$(A)
340 IF LEN(NAME$(A))<8 THEN 370
350 PRINT :"TOO LONG!  7 OR LESS"::
360 GOTO 330
370 NEXT A
380 PRINT :::"ENTER     FOR"::"  1      TI-99/4"::"  2      TI-99/4A"::
390 INPUT MACH
400 IF (MACH=1)+(MACH=2)=0 THEN 380
410 CALL CLEAR
420 PRINT "THIS GAME REQUIRES THAT YOU MAKE INPUTS TO THE KEYBOARD BY PRESSING S
PACE BAR OR BY"
430 PRINT "PRESSING THE FIRE BUTTON ON A JOYSTICK.  YOU MUST MAKE  THIS INPUT AT
 A PRECISE TIME"
440 PRINT "FOLLOWING AN AUDIBLE TONE.":"GOOD LUCK!":::::::
450 GOSUB 980
550 FOR E=1 TO 10
560 GOSUB 4820
570 ON E GOSUB 1095,1410,1990,2840,3150,3180,3410,3570,3870,4080
580 GOSUB 890
590 NEXT E
620 FOR J=96 TO X
630 READ Z$
640 CALL CHAR(J,Z$)
650 NEXT J
660 RETURN
670 FOR ET=(E=4)*(-6.5)-(E=8)*15.5 TO 2.5*(E-1)STEP E/16
680 FOR TRY=1 TO 3
690 FOR A=1 TO N
700 IF (E=4)+(E=8)=0 THEN 730
710 IF T(A)=ET THEN 800
720 IF S(A)=1 THEN 800
730 PRINT TAB(3);"DECATHLON ";A$;" EVENT";E:TAB(13);B$::TAB(W);C$:::::::::::::::
:
740 IF (E=4)+(E=8)=0 THEN 770
750 PRINT TAB(4);"ATTEMPT:";TRY::TAB(4);"CURRENT HEIGHT:";ET;"FEET"::
760 GOTO 780
770 PRINT TAB(4);"ATTEMPT:";TRY::TAB(4);"CURRENT BEST:";T(A);"FEET"::
780 ON E GOSUB 1,1690,2310,2920,1,1,2310,1690,2330
790 CALL CLEAR
800 NEXT A
810 NEXT TRY
820 IF (E=4)+(E=8)=0 THEN 880
830 FOR J=1 TO N
840 IF T(J)=ET THEN 860
850 S(J)=1
860 NEXT J
870 NEXT ET
880 RETURN
890 PRINT "CURRENT STANDINGS"::"ATHLETE","POINTS"::
900 FOR J=1 TO N-1
910 FOR K=J+1 TO N
920 IF P(J)<P(K)THEN 1030
930 NEXT K
940 NEXT J
950 FOR J=1 TO N
960 PRINT NAME$(J),P(J)::
970 NEXT J
972 IF E<10 THEN 980
974 PRINT "UNTIL NEXT TIME SPORTS FANS!"
976 END
980 PRINT "PRESS BAR/FIRE TO CONTINUE"
990 CALL KEY(0,K0,S0)
995 CALL KEY(1,K1,S1)
998 CALL KEY(2,K2,S2)
1000 IF S0+S1+S2 THEN 1010 ELSE 990
1010 CALL CLEAR
1020 RETURN
1030 X=P(J)
1040 P(J)=P(K)
1050 P(K)=X
1060 Z$=NAME$(J)
1070 NAME$(J)=NAME$(K)
1080 NAME$(K)=Z$
1090 GOTO 900
1095 C$="100 METER RUN"
1100 CALL SCREEN(6)
1110 CALL COLOR(9,2,11)
1120 IF E=6 THEN 1145
1130 X=97
1140 W=8
1145 RESTORE 7000
1150 GOSUB 620
1160 IF E<>6 THEN 1180
1170 CALL CHAR(97,"0C0C394E085422")
1180 PRINT TAB(3);"DECATHLON ";A$;" EVENT";E:TAB(13);B$::TAB(W);C$:::::::::::::::
::::::
1190 CALL HCHAR(10,1,103,256)
1200 IF (E=1)+(E=6)=0 THEN 1220
1210 CALL VCHAR(10,30,96,8)
1220 CALL VCHAR(10,4,96,8)
1230 CALL VCHAR(10,3,97,N)
1240 IF E<>6 THEN 1280
1250 FOR J=6 TO 24 STEP 3
1260 CALL VCHAR(10,J,98,N)
1270 NEXT J
1280 FOR A=1 TO N
1290 GOSUB 4110
1300 IF E<>1 THEN 1330
1310 INC(A)=1-ABS(I-9)*.03
1320 GOTO 1340
1330 INC(A)=1-ABS(I-7*E-(E=6)-2*(E=10)+(MACH=1)*2+(E=5)*(MACH=1))*.1/E
1340 IF INC(A)>=.8 THEN 1360
1350 INC(A)=.8
1360 NEXT A
1370 GOSUB 4350
1380 CALL CLEAR
1390 PRINT "RESULTS OF ";C$::"ATHLETE    TIME    POINTS"::
1400 GOTO 4300
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DECATHLON

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1410 CALL SCREEN(12)
1420 CALL COLOR(9,2,10)
1430 CALL COLOR(10,10,12)
1440 X=99
1450 W=10
1460 C$="LONG JUMP"
1465 RESTORE 7010
1470 GOTO 2040
1480 CALL HCHAR(12,2,104)
1490 CALL HCHAR(12,3,103,26)
1500 CALL HCHAR(11,22,103,6)
1510 CALL HCHAR(13,24,103,6)
1520 CALL HCHAR(11,21,104)
1530 CALL HCHAR(13,23,104)
1540 CALL HCHAR(11,28,105)
1550 CALL HCHAR(12,29,105)
1560 CALL HCHAR(13,30,105)
1570 IF E=8 THEN 1610
1580 CALL HCHAR(12,20,96)
1590 CALL HCHAR(12,3,97)
1600 RETURN
1610 CALL HCHAR(12,22,96)
1620 CALL VCHAR(11,24,99,3)
1630 CALL VCHAR(8,21,38)
1640 CALL VCHAR(9,21,39,2)
1650 CALL HCHAR(9,22,40)
1660 CALL HCHAR(10,23,40)
1670 CALL HCHAR(12,4,98,2)
1680 GOTO 1590
1690 GOSUB 1480
1700 GOSUB 4110
1710 FOR J=4 TO 19
1720 CALL HCHAR(12,J,97)
1730 CALL HCHAR(12,J-1,103)
1740 IF E<>8 THEN 1760
1750 CALL HCHAR(12,J+2,98)
1760 NEXT J
1770 IF E=4 THEN 3000
1780 IF E=8 THEN 3640
1790 CALL HCHAR(12,21,98)
1800 CALL HCHAR(12,19,103)
1810 FOR J=22 TO 27
1820 CALL HCHAR(12,J,98)
1830 CALL HCHAR(12,J-1,103)
1840 NEXT J
1850 CALL HCHAR(12,27,99)
1860 ET=INT((25-ABS(I-15+(MACH=1))*1.39+T(A)*.1)*100)*.01
1870 IF ET>=13.88 THEN 1900
1880 PRINT$="FOOT FAULT"
1890 GOTO 1910
1900 PRINT$=STR$(ET)&" FEET"
1910 X=18
1920 Y=6
1930 GOSUB 4730
1940 IF (ET>T(A))+(ET>=13.88)=-2 THEN 1950 ELSE 1960
1950 T(A)=ET
1960 PE(A)=INT(T(A)*43.25)
1970 GOSUB 4790
1980 RETURN
1990 CALL SCREEN(16)
2000 CALL COLOR(9,2,11)
2010 CALL COLOR(10,11,16)
2020 X=101
2030 C$="SHOT PUT"
2040 GOSUB 620
2050 GOSUB 680
2060 PRINT "RESULTS OF THE ";C$::"ATHLETE    FEET    POINTS"::
2070 GOTO 4300
2080 CALL HCHAR(10,3,107)
2090 CALL HCHAR(10,4,103,3)
2100 CALL HCHAR(10,7,105)
2110 CALL HCHAR(11,3,103,5)
2120 CALL HCHAR(12,3,103,5)
2130 CALL HCHAR(13,3,103,5)
2140 CALL HCHAR(14,3,104)
2150 CALL HCHAR(14,4,103,3)
2160 CALL HCHAR(14,7,106)
2170 CALL VCHAR(11,8,96,3)
2180 FOR J=8 TO 10
2190 CALL HCHAR(J,18-J,107)
2200 CALL HCHAR(J,19-J,103,J+12)
2210 NEXT J
2220 CALL HCHAR(11,9,103,22)
2230 CALL HCHAR(12,9,103,22)
2240 CALL HCHAR(13,9,103,22)
2250 FOR J=14 TO 16
2260 CALL HCHAR(J,J-6,104)
2270 CALL HCHAR(J,J-5,103,36-J)
2280 NEXT J
2290 CALL HCHAR(12,3,97)
2300 RETURN
2310 GOSUB 2080
2320 IF E<>9 THEN 2340
2330 GOSUB 3930
2340 GOSUB 4110
2350 FOR J=4 TO 7
2360 CALL HCHAR(12,J,97)
2370 CALL HCHAR(12,J-1,103)
2380 IF E<>9 THEN 2410
2390 CALL HCHAR(11,J+1,96)
2400 CALL HCHAR(11,J-2,103)
2410 NEXT J
2420 CALL HCHAR(12,7,98)
2430 IF E<>9 THEN 2450
2440 CALL HCHAR(11,6,103,3)
2450 FOR J=11 TO 15 STEP 2
2460 IF E<>9 THEN 2490
2470 CALL HCHAR(16-J/2,J-1,96,3)
2480 GOTO 2500
2490 CALL HCHAR(16-J/2,J,99)
2500 CALL HCHAR(16-J/2,J-1,103,3)
2510 NEXT J
2520 FOR J=17 TO 21 STEP 2
2530 IF E<>9 THEN 2560
2540 CALL HCHAR(8,J-1,96,3)
2550 GOTO 2570
2560 CALL HCHAR(8,J,99)
2570 CALL HCHAR(8,J-1,103,3)
2580 NEXT J
2590 FOR J=23 TO 25 STEP 2
2600 IF E<>9 THEN 2630
2610 CALL HCHAR(J/2-3,J-1,96,3)
2620 GOTO 2640
2630 CALL HCHAR(J/2-3,J,99)
2640 CALL HCHAR(J/2-3,J-1,103,3)
2650 NEXT J
2660 IF E=9 THEN 3970
2670 CALL HCHAR(12,28,100)
2680 CALL HCHAR(12,28,103)
2690 CALL HCHAR(12,29,101)
2700 IF E=7 THEN 3480
2710 ET=INT((66-ABS(I-22+(MACH=1))*3.908+T(A)*.05)*100)*.01
2720 IF ET>=42 THEN 2750
2730 PRINT$="FOOT FAULT"
2740 GOTO 2760
2750 PRINT$=STR$(ET)&" FEET"
2760 IF (ET<T(A))+(ET<42)<=-1 THEN 2780
2770 T(A)=ET
2780 PE(A)=INT(T(A)*17.28)
2790 X=18
2800 Y=6
2810 GOSUB 4730
2820 GOSUB 4790
2830 RETURN
2840 CALL SCREEN(11)
2850 CALL COLOR(9,2,4)
2860 X=101
2870 C$="HIGH JUMP"
2880 GOSUB 620
2890 GOSUB 670
2900 PRINT "RESULTS OF THE ";C$::"ATHLETE    FEET    POINTS"::
2910 GOTO 4300
2920 FOR J=8 TO 16
2930 CALL HCHAR(J,3,103,22)
2940 NEXT J
2950 CALL HCHAR(11,19,98)
2960 CALL HCHAR(12,20,99)
2970 CALL HCHAR(13,21,96)
2980 CALL HCHAR(12,3,97)
2990 GOTO 1700
3000 CALL HCHAR(12,20,100)
3010 CALL HCHAR(12,19,103)
3020 GOSUB 5000
3030 IF (I>4*ET-3-(MACH=1))+(I<59-4*ET-(MACH=1))=-2 THEN 3110
3040 CALL HCHAR(11,19,96)
```

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3050 CALL HCHAR(12,20,103)
3060 CALL VCHAR(11,20,96,3)
3070 U(A)=U(A)+1
3080 CALL HCHAR(13,22,101)
3090 GOSUB 4790
3100 RETURN
3110 T(A)=ET
3120 PE(A)=INT(280*T(A)-900-U(A)*(30-4*T(A)))
3130 CALL HCHAR(12,20,99)
3140 GOTO 3080
3150 C$="400 METER RUN"
3160 W=8
3170 GOTO 1100
3180 C$="110 METER HURDLES"
3190 X=99
3200 W=6
3210 GOTO 1100
3220 CALL GCHAR(9+J,L(J)-1,WHAT2)
3230 CALL GCHAR(9+J,L(J),WHAT1)
3240 CALL HCHAR(9+J,L(J),-97*(WHAT1<>98)-99*(WHAT1=98))
3250 CALL HCHAR(9+J,L(J)-1,-103*(WHAT2<>99)-98*(WHAT2=99))
3260 GOTO 4440
3410 CALL SCREEN(16)
3420 CALL COLOR(9,2,4)
3430 CALL COLOR(10,4,16)
3440 X=101
3450 W=11
3460 C$="DISCUS"
3465 RESTORE 7040
3470 GOTO 2040
3480 ET=INT((200-ABS(I-48+(MACH=1))*11.125+T(A)*.1)*100)*.01
3490 IF ET>=80 THEN 3520
3500 PRINT$="FOOT FAULT"
3510 GOTO 3530
3520 PRINT$=STR$(ET)&" FEET"
3530 IF (ET<T(A))+(ET<80)<=-1 THEN 3550
3540 T(A)=ET
3550 PE(A)=INT(5.406*T(A))
3560 GOTO 2790
3570 CALL SCREEN(12)
3580 CALL COLOR(9,2,16)
3590 CALL COLOR(10,16,12)
3600 X=102
3610 W=10
3620 C$="POLE VAULT"
3630 GOTO 2880
3640 CALL HCHAR(12,19,103,3)
3650 CALL HCHAR(12,22,100)
3660 CALL HCHAR(11,22,101)
3670 CALL HCHAR(10,22,41)
3680 CALL HCHAR(9,22,42)
3690 GOSUB 5000
3700 CALL HCHAR(9,22,40)
3710 CALL HCHAR(12,25,102)
3720 IF (I>18+2*ET-(MACH=1)*2)+(I<90-2*ET-(MACH=1)*2)=-2 THEN 3840
3730 CALL HCHAR(8,21,39)
3740 CALL HCHAR(9,22,32)
3750 CALL HCHAR(10,23,32)
3760 CALL HCHAR(14,21,43,4)
3770 U(A)=U(A)+1
3780 CALL HCHAR(10,22,32)
3790 CALL HCHAR(11,22,103)
3800 CALL HCHAR(12,22,96)
3810 CALL HCHAR(12,19,98,3)
3820 GOSUB 4790
3830 RETURN
3840 T(A)=ET
3850 PE(A)=INT(140*T(A)-1250-U(A)*(35-2*T(A)))
3860 GOTO 3780
3870 CALL SCREEN(16)
3880 C$="JAVELIN"
3890 CALL COLOR(9,2,6)
3900 X=99
3910 W=11
3920 GOTO 2040
3930 CALL HCHAR(7,1,103,6*32)
3940 CALL HCHAR(12,3,97)
3950 CALL HCHAR(11,2,96,3)
3960 RETURN
3970 CALL HCHAR(11,28,99)
3980 CALL HCHAR(12,29,99)
3990 ET=INT((271-ABS(I-61+(MACH=1)*2)*15.075+T(A)*.1)*100)*.01
4000 IF ET>=150.4 THEN 4030
4010 PRINT$="FOOT FAULT"
4020 GOTO 4040
4030 PRINT$=STR$(ET)&" FEET"
4040 IF (ET<T(A))+(ET<150.4)<=-1 THEN 4060
4050 T(A)=ET
4060 PE(A)=INT(3.99*T(A))
4070 GOTO 2790
4080 C$="1500 METER RUN"
4090 W=7
4100 GOTO 1100
4110 PRINT$=NAME$(A)&",INPUT AFTER "&STR$(E)&" SECONDS"
4120 X=24
4130 Y=2
4140 GOSUB 4730
4150 GOSUB 4790
4170 CALL SOUND(100,440,1)
4180 FOR I=1 TO 100
4190 CALL KEY(0,K0,S0)
4192 CALL KEY(1,K1,S1)
4194 CALL KEY(2,K2,S2)
4200 IF S0+S1+S2 THEN 4215
4210 NEXT I
4215 CALL SOUND(100,880,1)
4220 CALL HCHAR(24,1,32,32)
4230 RETURN
4300 FOR A=1 TO N
4310 PRINT NAME$(A);TAB(11);T(A);TAB(20);PE(A)::
4320 P(A)=P(A)+PE(A)
4330 NEXT A
4340 GOTO 980
4350 ET=1
4360 CALL SOUND(200,-5,1)
4365 CALL VCHAR(10,4,103,8)
4370 FOR J=1 TO N
4380 M=M+1
4390 IF S(J)=1 THEN 4700
4400 L(J)=L(J)+INC(J)
4410 IF E=6 THEN 3220
4420 CALL HCHAR(9+J,L(J),97)
4430 CALL HCHAR(9+J,L(J)-1,103)
4440 IF L(J)<29.5 THEN 4700
4450 IF (E=1)+(E=6)=-1 THEN 4520
4460 IF ET>E/2.5-.1 THEN 4620
4470 L(J)=L(J)-27
4480 CALL HCHAR(9+J,L(J),97)
4490 CALL HCHAR(9+J,30,103)
4500 ET=ET+1/N
4510 IF ET>E/2.5-.1 THEN 4600 ELSE 4700
4520 S(J)=1
4530 IF E=6 THEN 4570
4540 T(J)=INT(M*38.1/N)*.01
4550 PE(J)=INT(3854-T(J)*266.7)
4560 GOTO 4690
4570 T(J)=INT(M*49.8/N)*.01
4580 PE(J)=INT(3854-T(J)*203.99)
4590 GOTO 4690
4600 CALL VCHAR(10,30,96,8)
4610 GOTO 4700
4620 S(J)=1
4630 IF E=10 THEN 4670
4640 T(J)=INT((M/N-9)*100)*.01
4650 PE(J)=INT(3880-T(J)*60.73)
4660 GOTO 4690
4670 T(J)=INT(M*200/N)*.01
4680 PE(J)=INT(3427-T(J)*10.39)
4690 IF ST=N THEN 4720
4700 NEXT J
4710 GOTO 4370
4720 RETURN
4730 FOR K=1 TO LEN(PRINT$)
4740 Z$=SEG$(PRINT$,K,1)
4750 CALL HCHAR(X,Y,ASC(Z$))
4760 Y=Y+1
4770 NEXT K
4780 RETURN
4790 FOR DELAY=1 TO 1000
4800 NEXT DELAY
4810 RETURN
4820 M=0
4830 ET=0
4840 FOR J=1 TO N
4850 PE(J)=0
4860 T(J)=0
4870 L(J)=3
4880 S(J)=0
4890 U(J)=0
4900 NEXT J
4910 RETURN
5000 FOR DELAY=1 TO 200
5010 NEXT DELAY
5020 RETURN
7000 DATA 808080808080808,0C0C394E08542202,0000000000009808,06760C1F54220908
7010 DATA 8040201008040201,0C0C394E08542202,0006063877701C03,000003033C3C22E1
7020 DATA 808080808080808,0CD0E0B0D81C2221,191A1C7090284484,0000001818,1818,0000
000000000303
7030 DATA 808080808080808,0C0C394E08542202,80C0A09088848281,8040201008040201,834
F3C3A51942201,20130F1C7A92224
7040 DATA 808080808080808,0C0C093E48CC9222,191A1C7090284484,0000003C,00000808080
8,000000000000003C
7050 DATA 8040201008040201,0C0C384EFF542202,00000000FF,808080808080808,905030100
8040201,101010101010101
7055 DATA 20130F1C7A92224
7060 DATA 0000000000000FF,2C2C180C0A542202,191A1C7090284484,8040201008040201
```

QUESTO PROGRAMMA PERMETTE DI COMPRENDERE NELLA COSTRUZIONE DI UN GIOCO MOLTE DEL= LE ISTRUZIONI CHE VANNO A GESTIRE LO STESSO GIOCO. UN BUON ALLENAMENTO PER IMPARARE
IL PROGRAMMA E' IN EXTENDED BASIC E CI E' STATO INVIATO DAL NOSTRO CARO OSELLA

Ex. B.

```
1 REM   FRANCOMPUTER   CLUB   VICENZA
2 REM
3 REM
4 REM    PROGRAMMA    DIDATTICO
5 REM    ELABORATO  E   SCRITTO
6 REM
7 REM         LUCA OSELLA
8 REM
9 REM
10 ! ************************    PER LE SPIEGAZIONI LISTA    RE TUTTO IL PROGRAM
MA.      CALL COINC: 521-528         CALL JOYST: 471
20 ! CALL MOTION: 651-653        CALL POSITION: 641 0 441                  0 53
1        ************************
30 CALL CLEAR :: CALL SCREEN(3):: A$="FFFFFFFFFFFFFFFF" :: CALL CHAR(96,A$,104,A
$,112,A$)
40 B$="0103070F1F3F7FFF" :: CALL CHAR(120,B$,128,B$)
50 CALL CHAR(136,"0F1F3F7FFFFFFFFFFFFFFFFF7F3F1F0FF0F8FCFEFFFFFFFFFFFFFFFFFFEFCF8
F0")
60 CALL CHAR(113,"FFFFFFFFFFFFFFFF00")
70 CALL COLOR(9,5,5,10,9,9,11,16,3,12,5,3,13,16,3)
80 CALL HCHAR(17,2,112,29):: CALL HCHAR(16,2,112,29):: CALL HCHAR(15,2,112,29)::
 CALL HCHAR(14,3,128,1)
90 CALL HCHAR(14,4,112,27):: CALL HCHAR(13,4,128,1):: CALL HCHAR(13,5,112,26)::
CALL HCHAR(12,5,128,1)
100 CALL HCHAR(12,6,112,4):: CALL HCHAR(11,10,120,1):: CALL HCHAR(10,11,120,1)::
 CALL HCHAR(9,12,120,1):: CALL HCHAR(8,13,120,1)
110 CALL HCHAR(12,10,96,8):: CALL HCHAR(11,11,96,7):: CALL HCHAR(10,12,96,6):: C
ALL HCHAR(9,13,96,5):: CALL HCHAR(8,14,96,4)
120 CALL HCHAR(7,14,128,1):: CALL HCHAR(7,15,112,16):: CALL HCHAR(8,18,112,13)::
 CALL HCHAR(9,18,112,13):: CALL HCHAR(10,18,112,13)
130 CALL HCHAR(11,18,112,13):: CALL HCHAR(12,18,112,13):: CALL VCHAR(9,23,104,4)
:: CALL HCHAR(10,22,104,3)
140 CALL HCHAR(6,16,113,16):: CALL HCHAR(5,16,112,16):: CALL HCHAR(4,16,112,16):
: CALL HCHAR(3,16,112,16)
150 CALL HCHAR(18,6,136,1):: CALL HCHAR(18,7,138,1):: CALL HCHAR(19,6,137,1):: C
ALL HCHAR(19,7,139,1)
160 CALL HCHAR(18,26,136,1):: CALL HCHAR(18,27,138,1):: CALL HCHAR(19,26,137,1):
: CALL HCHAR(19,27,139,1)
170 DISPLAY AT(22,10):"     A M B U L A N C E          ---------------- "
180 !
190 CALL MAGNIFY(3)
200 ! **********************      SI SOVRAPPONGONO 4 SPR      ITES
         **********************
210 !
220 !
230 FOR N=1 TO 10
240 READ S(N)
250 CALL SOUND(INT(RND*20)+1,S(N),INT(RND*2)+1)
```

```
260 DATA 110,117,123,131,139,139,147,156,165,175
270 NEXT N
280 FOR W=1 TO 300 :: NEXT W :: CALL CLEAR :: CALL SCREEN(9):: FOR COL=1 TO 12 :
: CALL COLOR(COL,16,9):: NEXT COL
290 GOTO 1410
300 CALL CLEAR
310 !-------------------------          AMBULANCE              1984 BY LUCA OSEL
LA          TI 99/4A SOFTWARE            EXTENDED BASIC
320 !-------------------------
330 DISPLAY AT(2,10):"------------" :: DISPLAY AT(4,11):"SITUAZIONE" :: DISPLAY
AT(6,10):"------------"
340 DISPLAY AT(10,5):"SIETE ALLA GUIDA DI UNA AUTOAMBULANZA E DOVETE CONDURLA AT
TRAVERSO IL TRAFFICO INTRICATO DELLA METROPOLI."
350 DISPLAY AT(14,5):"DOVETE POI GUIDARE I BARELLIERI SENZA FARVI TRAVOLGERE DAG
LI UOMINI CHE CADONO."
360 DISPLAY AT(20,7):"PREMERE UN TASTO"
370 CALL HCHAR(1,1,112,32):: CALL HCHAR(24,1,112,32):: CALL VCHAR(1,1,112,24)::
CALL HCHAR(1,32,12,24)
380 CALL HCHAR(2,1,112,32):: CALL MAGNIFY(3):: CALL SPRITE(£1,128,2,1,1,0,-10)
390 !***********************     QUI SI DEFINISCONO  GLI     SPRITES CHE SI VEDO
NO       SULLO SCHERMO              ***********************
400 CALL HCHAR(23,1,112,32):: CALL SPRITE(£2,128,2,180,1,0,-10)
410 CALL KEY(0,K,H):: IF H=0 THEN 410
420 CALL CLEAR :: CALL DELSPRITE(ALL):: CALL HCHAR(2,1,112,32):: CALL HCHAR(12,1
,108,32):: CALL HCHAR(23,1,112,32)
430 CALL SPRITE(£1,132,2,10,252,0,-20,£2,140,2,50,252,0,-15,£3,96,2,70,252,0,-10
)
440 CALL SPRITE(£4,132,2,30,252,0,-10)
450 CALL SPRITE(£6,100,2,100,1,0,10,£7,100,2,120,1,0,5,£8,100,2,140,1,0,20)
460 !
470 CALL SPRITE(£11,100,2,160,1,0,10,£12,132,2,62,252,0,-10)
480 CALL SPRITE(£16,104,2,1,1,0,10,£17,104,2,1,50,0,10,£18,104,2,170,1,0,10)
490 CALL SPRITE(£20,104,2,170,50,0,10,£21,104,2,170,100,0,10)
500 CALL SPRITE(£22,104,2,170,150,0,10,£23,104,2,170,200,0,10)
510 ! ******************          FINE DEGLI SPRITES          ******************
520 T=100 :: SC=0
530 ! **********************      NELLA RIGA N.450 VIENE      POSIZIONATA LA AUT
OAM=      BULANZA(£24)CON VELOC.      INIZIALE=0
540 ! **********************
550 CALL SPRITE(£24,128,2,130,240)
560 DISPLAY AT(24,1):"-- USARE IL JOYSTICK 1. --"
570 CALL COLOR(£24,16)
580 ! **********************      NELLA RIGA N. 480 VIE=      NE DEFINITA LA CAL
L         JOYST CHE E' USATA PER      FAR MUOEERE L'AUTOAM =
590 ! BULANZA.IL JOYSTICK         USATO E' IL NUMERO 1        ******************
****
600 CALL JOYST(1,X,Y)
610 ! **********************      L'AUTOAMBULANZA SI SMU      OVE CON V.OR.=1 E
V.VE      RT.=1                       **********************
620 CALL MOTION(£24,-Y,X)
630 CALL SOUND(1,-1,5)
640 T=T-1 :: DISPLAY AT(1,1):"TEMPO:";T;";SCONTRI:";SC :: IF T=0 THEN 850
650 CALL COINC(ALL,C)
660 ! **********************      NELLA RIGA N 520 SI VE      DE PER LA PRIMA VO
LTA       LA CALL COINC.ESSA SER      VE A STABILIRE QUANDO
670 ! C'E' LA SOVRAPPOSIZION      E DI DIVERSI SPRITES.       IL SUO FORMATO E':
CALL      COINC(N.SPRIT.,N.SPRIT      .,TOLLERANZA,VARIABILE
680 ! NUMERICA). IL N,SPRIT.      E' IL NUMERO DEI DUE        SPRITES CHE VOLETE
 ANA      LIZZARE,LA TOLLERANZA       E' UN NUMERO INTERO
690 ! E LA VARIABILE E' UNA       LETTERA QUALSIASI.SUCC      ESSIVAMENTE SI PON
E IL      QUESITO AL COMP. SE         ESSA E' VERA(=-1) O SE
700 ! ESSA E' FALSA(=0)(RIGA      530).SE E' VERA SI RIM      ANDA AD UN ALTRO N
UMER      O DI LINEA DOVE ACCADE      QUALCOSA(SUONO,PUNTEGG
```

```
710 ! GIO DIMINUITO,ECC.)ALT      RIMENTI SI RITORNA ALL      A CALL JOYST.
720 ! OLTRE AL FORMATO SOPRA      DESCRITTO SE NE PUO US      ARE ANCHE UN ALTRO
:CAL      L COINC(ALL,C).DOVE AL      L(=TUTTI)VUOL DIRE CHE
730 ! IL COMPUTER GUARDA SE       TUTTI GLI SPR. COINCID      ONO,E C E' LA VERI
ABIL      E NUMERICA.                 **********************
740 IF C=-1 THEN 760 ELSE GOTO 600
750 ! **********************      L'AUTOAMBULANZA VIENE       POSIZIONATA (X,Y)
          **********************
760 CALL POSITION(£24,X,Y):: CALL SOUND(900,-1,1):: CALL DELSPRITE(£24)
770 CALL CHAR(120,"000000181800000050200181800000004000000000004B000000040000400
100")
780 ! **********************      SCOPPIO DELLA AUTOAMB.      ******************
****
790 CALL SPRITE(£5,120,16,X,Y,-3,-3):: CALL SPRITE(£9,120,16,X,Y,3,3)
800 CALL SPRITE(£10,120,16,X,Y,-3,3):: CALL SPRITE(£13,120,16,X,Y,3,-3):: CALL S
PRITE(£14,120,16,X,Y,1,1)
810 CALL SPRITE(£15,120,16,X,Y,-1,-1):: CALL SPRITE(£19,120,16,X,Y,4,0)
820 FOR W=1 TO 300 :: NEXT W :: CALL DELSPRITE(£5,£9,£10,£13,£14,£15,£19):: SC=S
C+1
830 CALL SPRITE(£24,128,16,130,130):: GOTO 600
840 ! **********************      SI RITORNA ALLA CALL J      OYST INIZIALE SE I
L TE      MPO(T) NON E' SCADUTO       **********************
850 CALL CLEAR
860 ! **********************      INIZIA IL SECONDO QUAD      RO
          **********************
870 CALL DELSPRITE(ALL)
880 SCORE=10000-(100*SC)
890 CALL SPRITE(£1,128,16,118,256,0,-10):: FOR W=1 TO 600 :: NEXT W :: CALL MOTI
ON(£1,0,0):: CALL POSITION(£1,X,Y)
900 ! **********************      NELLA CALL POSITION(£N      X,Y)VIENE REGISTRA
TA L      A POSIZIONE DI UN DATO      SPRITES(£N)PER USUFRUI
910 ! RNE POI PIU' TARDI          **********************
920 CALL SPRITE(£2,136,2,X,Y,5,0):: FOR W=1 TO 400 :: NEXT W :: CALL MOTION(£2,0
,-10):: FOR W=1 TO 500 :: NEXT W
930 ! **********************      CON LA CALL MOTION SI       IMPRIME ALLO SPRIT
ES D      EDIDATO(QUI=£2)UNA DAT      A VELOCITA' SECONDO LO
940 ! ASSE X E POI SECONDO L      ASSE Y(FORMATO:CALL MO      ION(£NUMERO SPRITE
,VEL      OCITA' SECONDO L'ASSE       X,VELOCITA' SECONDO LO
950 ! ASSE Y))                    **********************
960 CALL CLEAR :: CALL DELSPRITE(£1,£2)
970 CALL MAGNIFY(3):: A$="000000000C0F0C0508040200000000000000204080000090A86610
0A04000000"
980 B$="000000000202020233F01000000000000000030121E1818F8F800F000000000"
990 C$="000000000101011109050301000101000040408C1020408890A0C08080808000"
1000 ! ********************       A$,B$,C$ DEFINISCONO        DEGLI UOMINI CHE
CA=        DONO.                     ********************
1010 CALL CLEAR :: CALL SCREEN(16):: CALL HCHAR(24,1,112,32)
1020 CALL SPRITE(£1,136,16,170,118)
1030 CALL CHAR(128,A$):: CALL CHAR(132,B$):: CALL CHAR(140,C$):: CALL CHAR(96,A$
):: CALL CHAR(100,B$)
1040 CALL CHAR(104,C$):: CALL CHAR(108,A$):: CALL CHAR(112,B$):: CALL CHAR(116,C
$)
1050 GOSUB 1380
1060 CALL SPRITE(£2,140,COL,1,1,10,0):: GOSUB 1380
1070 CALL SPRITE(£3,104,COL,1,20,4,0):: GOSUB 1380
1080 CALL SPRITE(£4,116,COL,1,40,15,0):: GOSUB 1380
1090 CALL SPRITE(£5,128,COL,1,60,10,0):: GOSUB 1380
1100 CALL SPRITE(£6,112,COL,1,80,10,0):: GOSUB 1380
1110 CALL SPRITE(£7,96,COL,1,100,10,0):: GOSUB 1380
```

```
1120 CALL SPRITE(£8,132,COL,1,120,5,0):: GOSUB 1380
1130 CALL SPRITE(£9,108,COL,1,140,5,0):: GOSUB 1380
1140 CALL SPRITE(£10,128,COL,1,180,10,0):: GOSUB 1380
1150 TEMPO=100
1160 CALL SPRITE(£11,128,COL,1,230,4,0)
1170 CALL JOYST(1,X,Y)
1180 TEMPO=TEMPO-1 :: IF TEMPO=0 THEN 1310
1190 DISPLAY AT(1,1):"TEMPO:";TEMPO;"  PUNTEGGIO:";SCORE
1200 CALL MOTION(£1,0,3*X)
1210 CALL SOUND(1,-1,1)
1220 ! **********************      QUI VIENE DI NUOVO USA      TA LA CALL COINC,
CON L      LA CONDIZIONE SE AVVIE      NE LA COINCIDENZA(=COI
1230 ! NC) FRA DUE SPRITES(C=      -1)                          ****************
*****
1240 CALL COINC(ALL,C):: IF C=-1 THEN 1250 ELSE GOTO 1170
1250 SCORE=SCORE-20
1260 ! **********************      COINCIDENZA VERIFICATA      ****************
*****
1270 CALL POSITION(£1,X,Y):: CALL DELSPRITE(£1)
1280 CALL SPRITE(£20,120,2,X,Y,-3,-3,£21,120,2,X,Y,3,3,£22,120,2,X,Y,-3,3,£23,12
0,2,X,Y,3,-3)
1290 FOR W=1 TO 50 :: NEXT W
1300 CALL DELSPRITE(£20,£21,£22,£23):: CALL SPRITE(£1,136,16,170,118):: GOTO 117
0
1310 CALL DELSPRITE(ALL):: CALL CLEAR
1320 DISPLAY AT(10,1):"PUNTEGGIO FINALE:";SCORE
1330 DISPLAY AT(20,1):"VUOI RIGIOCARE ? (S/N)"
1340 CALL KEY(0,K,H):: IF H=0 THEN 1340
1350 IF K=83 THEN 30 :: IF K=78 THEN 1360 :: IF K<>83 OR K<>78 THEN 1340
1360 CALL CLEAR
1370 END
1380 RANDOMIZE
1390 COL=INT(RND*15)+1
1400 RETURN
1410 CALL CHAR(128,"000000070F13276FFFFFFF1C0800000000030FFFFDFDF07DFDFFF0E0400
0000")!AMBULANZA
1420 CALL CHAR(132,"0000000000000040CFFFEFF3810000000000000000000000003E3EFF1C08
0000")! JEEP
1430 CALL CHAR(136,"000030331332333B3F57979750B00000000003E36123676BF3F5F9F9050F
0000")! BARELLIERI
1440 CALL CHAR(140,"0000000C0E031D313F2F562B1000000000000000000008080FCEB54281000
0000")! MOTOCICLISTA
1450 CALL CHAR(96,"0000000000000081F387FFF1D0800000000000000C0C040C1C3FFFF8E040
000")! AUTO SPORTIVA E GUID.
1460 CALL CHAR(100,"0F1F1F19393FFFFF7F1F1F0C0D0F0703F0F8F8989CFCFFFFFCF8F83030F0
E0C0")! MOSTRO
1470 CALL CHAR(104,"0000000000000007EFFFF81FF81FFFF000000000000000000000000000000
0000")! GUARD-REAL
1480 CALL CHAR(108,"0000FF0000FF0000",112,"0000FFFFFFFF0000"):: GOTO 300
1490 END
1500 !                      ------------------------------******SPIEGAZIONI****
*------------------------------
1510 ! Se il tempo di gioco!     ! vi sembra troppo lun!     ! go o corto non av
ete!     ! che da modificare la!     ! linea n. 440   nella!
1520 ! prima incognita("T=1!     ! 00").                !     ! Piu' che altro in
 qu!     ! esto programma ho ce!     ! rcato di esemplifica!
1530 ! re al messimo le ist!     ! ruzioni,cosicche' si!     ! possa imparare an
che!     ! leggendo il listato !     ! (p.e. l'uso della ca!
1540 ! ll coinc;call positi!     ! on;call motion;ecc.)!     !
   !     !                    !     ----------------------
1550 !                              BUON DIVERTIMENTO
    ---------------------------------------------------------
1560 END
```

```
1 REM  FRANCOMPUTER CLUB VICENZA
2 REM
3 REM ========================
4 REM
5 REM    PROGRAMMA  UTILITY
6 REM
7 REM      BY LUCA OSELLA
8 REM
9 REM
10 CALL SCREEN(16)
20 CALL CHAR(128,"FFFFFFFFFFFFFFFF")
30 CALL CHAR(129,"0103070F1F3F7FFF")
40 CALL CHAR(136,"000000FFFF000000")
50 CALL COLOR(14,3,16)
60 CALL CLEAR
70 REM  *************                PARTE GRAFICA              *************
80 CALL HCHAR(20,23,129,1)
90 CALL HCHAR(21,22,129,1)
100 CALL VCHAR(3,3,128,6)
110 CALL VCHAR(3,25,128,2)
120 CALL VCHAR(3,27,128,2)
130 CALL VCHAR(5,26,128,4)
140 CALL HCHAR(8,3,128,5)
150 CALL VCHAR(1,7,128,8)
160 CALL HCHAR(10,1,136,32)
170 CALL HCHAR(18,1,136,32)
180 CALL HCHAR(1,7,128,23)
190 CALL HCHAR(3,9,128,3)
200 CALL VCHAR(3,10,128,6)
210 CALL VCHAR(3,13,128,6)
220 CALL VCHAR(3,15,128,6)
230 CALL HCHAR(8,15,128,3)
240 CALL VCHAR(3,19,128,6)
250 CALL VCHAR(3,22,128,6)
260 CALL HCHAR(3,20,128,3)
270 CALL HCHAR(20,3,128,3)
280 CALL VCHAR(20,4,128,5)
290 CALL VCHAR(20,7,128,5)
300 CALL HCHAR(20,11,128,3)
310 CALL HCHAR(22,11,128,3)
320 CALL HCHAR(24,11,128,3)
330 CALL VCHAR(20,11,128,3)
340 CALL VCHAR(20,13,128,5)
350 CALL HCHAR(20,15,128,3)
360 CALL HCHAR(22,15,128,3)
370 CALL HCHAR(24,15,128,3)
380 CALL VCHAR(20,15,128,3)
390 CALL VCHAR(20,17,128,5)
400 CALL HCHAR(22,19,128,2)
410 CALL VCHAR(22,22,128,2)
420 CALL HCHAR(23,22,128,4)
430 CALL HCHAR(21,23,128,1)
440 CALL VCHAR(20,24,128,5)
450 CALL VCHAR(20,27,128,5)
460 CALL VCHAR(20,29,128,5)
470 CALL HCHAR(20,27,128,3)
480 CALL HCHAR(22,27,128,3)
490 DATA 110,117,123,131,139,147,139,156,147,175,165,147,185,208,196,220,220,311
,370,415,415,440,110,117,110,117
500 FOR Q=1 TO 26
510 READ R
520 CALL SOUND(100,R,1)
530 NEXT Q
540 FOR I=1 TO 27
550 A$="1 -- GIORNO DELLA SETTIMANA"
560 L=ASC(SEG$(A$,I,1))
570 CALL HCHAR(14,2+I,L)
580 NEXT I
590 FOR W=1 TO 200
600 NEXT W
610 FOR I=1 TO 27
620 A$="2 -- GIORNI FRA DUE DATE   "
630 L=ASC(SEG$(A$,I,1))
640 CALL HCHAR(14,2+I,L)
650 NEXT I
660 FOR W=1 TO 200
670 NEXT W
680 A$="3 -- RADIANTI IN GRADI     "
690 FOR I=1 TO 27
700 L=ASC(SEG$(A$,I,1))
710 CALL HCHAR(14,2+I,L)
720 NEXT I
730 FOR W=1 TO 200
740 NEXT W
750 A$="4 -- GRADI IN RADIANTI     "
760 FOR I=1 TO 27
770 L=ASC(SEG$(A$,I,1))
780 CALL HCHAR(14,2+I,L)
790 NEXT I
800 FOR W=1 TO 200
810 NEXT W
820 A$="5 -- INTERPOLAZIONE LINEARE"
830 FOR I=1 TO 27
840 L=ASC(SEG$(A$,I,1))
850 CALL HCHAR(14,2+I,L)
860 NEXT I
870 FOR W=1 TO 200
880 NEXT W
890 A$="6 -- EQUAZIONI BIQUADRAT.  "
900 FOR I=1 TO 27
910 L=ASC(SEG$(A$,I,1))
920 CALL HCHAR(14,2+I,L)
930 NEXT I
```

```
940 FOR W=1 TO 200
950 NEXT W
960 A$="7 -- PERMUTAZIONI E COMBIN."
970 FOR I=1 TO 27
980 L=ASC(SEG$(A$,I,1))
990 CALL HCHAR(14,2+I,L)
1000 NEXT I
1010 FOR W=1 TO 200
1020 NEXT W
1030 CALL SCREEN(2)
1040 CALL CLEAR
1050 CALL SCREEN(2)
1060 FOR COL=2 TO 14
1070 CALL COLOR(COL,16,2)
1080 NEXT COL
1090 A$="PREMI : "
1100 FOR I=1 TO 8
1110 L=ASC(SEG$(A$,I,1))
1120 CALL HCHAR(2,10+I,L)
1130 NEXT I
1140 A$="1 => GIORNO DELLA SETTIMANA"
1150 FOR I=1 TO 27
1160 L=ASC(SEG$(A$,I,1))
1170 CALL HCHAR(5,1+I,L)
1180 NEXT I
1190 A$="2 => GIORNO FRA DUE DATE"
1200 FOR I=1 TO 24
1210 L=ASC(SEG$(A$,I,1))
1220 CALL HCHAR(7,1+I,L)
1230 NEXT I
1240 A$="3 => RADIANTI IN GRADI"
1250 FOR I=1 TO 22
1260 L=ASC(SEG$(A$,I,1))
1270 CALL HCHAR(9,1+I,L)
1280 NEXT I
1290 A$="4 => GRADI IN RADIANTI"
1300 FOR I=1 TO 22
1310 L=ASC(SEG$(A$,I,1))
1320 CALL HCHAR(11,1+I,L)
1330 NEXT I
1340 A$="5 => INTERPOLAZIONE LINEARE"
1350 FOR I=1 TO 27
1360 L=ASC(SEG$(A$,I,1))
1370 CALL HCHAR(13,1+I,L)
1380 NEXT I
1390 A$="6 => EQUAZIONE BIQUADRAT."
1400 FOR I=1 TO 25
1410 L=ASC(SEG$(A$,I,1))
1420 CALL HCHAR(15,1+I,L)
1430 NEXT I
1440 A$="7 => PERMUTAZ. E COMBINAZ ."
1450 FOR I=1 TO 27
1460 L=ASC(SEG$(A$,I,1))
1470 CALL HCHAR(17,1+I,L)
1480 NEXT I
1490 A$="LA TUA SCELTA ? "
1500 FOR I=1 TO 16
1510 L=ASC(SEG$(A$,I,1))
1520 CALL HCHAR(22,6+I,L)
1530 NEXT I
1540 CALL KEY(0,K,S)
1550 IF S=0 THEN 1540
1560 IF K=49 THEN 1640
1570 IF K=50 THEN 2240
1580 IF K=51 THEN 2860
1590 IF K=52 THEN 3100
1600 IF K=53 THEN 3340
1610 IF K=54 THEN 3590
1620 IF K=55 THEN 3980
1630 GOTO 1540
1640 CALL CLEAR
1650 CALL SCREEN(2)
1660 CALL COLOR(13,16,2)
1670 PRINT "                                GIORNO DE
LLA SETTIMANA                               "
1680 PRINT "
                                  "
1690 PRINT "
                                  "
1700 PRINT "                  PREMERE UN TASTO
"
1710 PRINT
1720 PRINT
1730 PRINT
1740 PRINT
1750 CALL KEY(0,K,S)
1760 IF S=0 THEN 1750
1770 CALL CLEAR
1780 PRINT "        ---------------                                                    INSER
IRE I DATI"
1790 PRINT "                                        ---------------"
1800 PRINT "
                                  "
1810 PRINT "
                                  "
1820 INPUT " GIORNO IN ESAME(NUMERO)? ":D
1830 PRINT " **********"
1840 INPUT "  MESE  IN ESAME(NUMERO)? ":M
1850 PRINT " **********"
```

```
1860 INPUT "  ANNO  IN ESAME(NUMERO)? ":Y
1870 IF M>2 THEN 1900
1880 M=M+12
1890 Y=Y-1
1900 N=D+2*M+INT(.6*(M+1))+Y+INT(Y/4)-INT(Y/100)+INT(Y/400)+2
1910 N=INT((N/7-INT(N/7))*7+.5)
1920 IF N>0 THEN 1950
1930 PRINT ::::::::::::"--RISULTATO--":::"L'";D;"/";M;"/";Y;"ERA UN SABATO"
1940 GOTO 2110
1950 IF N>1 THEN 1980
1960 PRINT ::::::::::::"--RISULTATO--":::"L'";D;"/";M;"/";Y;"ERA UNA DOMENICA"
1970 GOTO 2110
1980 IF N>2 THEN 2010
1990 PRINT ::::::::::::"--RISULTATO--":::"L'";D;"/";M;"/";Y;"ERA UN LUNEDI'"
2000 GOTO 2110
2010 IF N>3 THEN 2040
2020 PRINT ::::::::::::"--RISULTATO--":::"L'";D;"/";M;"/";Y;"ERA UN MARTEDI'"
2030 GOTO 2110
2040 IF N>4 THEN 2070
2050 PRINT ::::::::::::"--RISULTATO--":::"L'";D;"/";M;"/";Y;"ERA UN MERCOLEDI'"
2060 GOTO 2110
2070 IF N>5 THEN 32767
2080 PRINT ::::::::::::"--RISULTATO--":::"L'";D;"/";M;"/";Y;"ERA UN GIOVEDI'"
2090 GOTO 2110
2100 PRINT ::::::::::::"--RISULTATO--":::"L'";D;"/";M;"/";Y;"ERA UN VENERDI'"
2110 PRINT
2120 PRINT
2130 PRINT
2140 PRINT "PREMI:1NUOVI DATI 2CAMBIARE"
2150 CALL KEY(0,K,S)
2160 IF S=0 THEN 2150
2170 IF K=ASC("1")THEN 2220
2180 IF K=ASC("2")THEN 2190
2190 CALL CLEAR
2200 GOTO 2150
2210 GOTO 2150
2220 CALL CLEAR
2230 GOTO 1780
2240 CALL CLEAR
2250 PRINT "                                    GIORNO F
RA DUE DATE                                   "
2260 PRINT ::::::::::::
2270 PRINT "               PREMERE UN TASTO
 "::::::::
2280 CALL KEY(0,K,S)
2290 IF S=0 THEN 2280
2300 CALL CLEAR
2310 A$="---------------                                          INSERIRE I DATI
```

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```
                                  ---------------"
2320 PRINT "          ";A$::::::::::::
2330 PRINT "*******  PRIMA DATA  *******"::::
2340 INPUT "GIORNO (NUMERO)  ? ":D1
2350 INPUT "MESE   (NUMERO)  ? ":M1
2360 INPUT "ANNO   (NUMERO)  ? ":Y1
2370 PRINT ::::"******* SECONDA DATA *******"::::
2380 INPUT "GIORNO (NUMERO)  ?":D2
2390 INPUT "MESE   (NUMERO)  ?":M2
2400 INPUT "ANNO   (NUMERO)  ?":Y2
2410 M=M1
2420 D=D1
2430 Y=Y1
2440 GOSUB 2590
2450 N=A
2460 M=M2
```

```
2470 D=D2
2480 Y=Y2
2490 GOSUB 2590
2500 N=A-N
2510 PRINT :::::::"---------------------------                                DIFFE
RENZA = ";N;" GIORNI"
2520 PRINT ::::"PREMI 1)NUOVI DATI 2)FINIRE"::::
2530 CALL KEY(0,K,S)
2540 IF S=0 THEN 2530
2550 IF K=ASC("1")THEN 2300 ELSE 2560
2560 CALL CLEAR
2570 GOTO 1060
2580 REM
2590 ON M GOTO 2620,2640,2620,2700,2620,2700,2620,2620,2700,2620,2700,2620
2600 PRINT ::::::::"--- E R R O R E ---":"D A T A  I R R E A L E":::
2610 RETURN
2620 IF D>31 THEN 2600
2630 GOTO 2710
2640 IF Y/4<>INT(Y/4)THEN 2670
2650 IF Y/400=INT(Y/400)THEN 2680
2660 IF Y/100<>INT(Y/100)THEN 2680
2670 IF D>28 THEN 2600
2680 IF D>29 THEN 2600
2690 GOTO 2710
2700 IF D>30 THEN 2590
2710 DATA 0,31,59,90,120,151,181,212
2720 DATA 243,273,304,334
2730 RESTORE
2740 FOR Q=1 TO M
2750 READ A
2760 NEXT Q
2770 RESTORE
2780 A=A+Y*365+INT(Y/4)+D+1-INT(Y/100)+INT(Y/400)
2790 IF INT(Y/4)<>Y/4 THEN 2850
2800 REM
2810 IF Y/400=INT(Y/400)THEN 2830
2820 IF Y/100=INT(Y/100)THEN 2840
2830 IF M>2 THEN 2850
2840 A=A-1
2850 RETURN
2860 CALL CLEAR
2870 PRINT "                                        RADIANT
I IN GRADI                                    "
2880 PRINT ::::::::::::"              PREMERE  UN TASTO
    ":::::
2890 CALL KEY(0,K,S)
2900 IF S=0 THEN 2890
2910 CALL CLEAR
2920 INPUT " RADIANTI ? ":R
2930 A=3600*180*R/3.1415927
2940 D=INT(A/3600)
2950 D1=INT(D/360)
2960 GRADI=D-360*D1
2970 MIN=INT((A-D*3600)/60)
2980 S=A-D*3600-(INT(A-D*3600)/60))*60
2990 SEC=INT(100*S+.5)/100
3000 PRINT ::::::::::::::"----------------------------          RISULTATI"::::
3010 PRINT "GRADI = ";GRADI:::
3020 PRINT "MINUTI= ";MIN:::
3030 PRINT "SECONDI=";SEC:::
3040 PRINT "---------------------------- PREMI 1FINIRE 2 CONTINUARE":::
3050 CALL KEY(0,K,S)
3060 IF S=0 THEN 3050
3070 IF K=ASC("2")THEN 2910 ELSE 3080
3080 CALL CLEAR
3090 GOTO 1060
```

```
3100 CALL CLEAR
3110 A$="                                   GRADI IN RADI
ANTI                                  "
3120 B$="            PREMERE UN TASTO
"
3130 PRINT "      ";A$::::::"      ";B$
3140 CALL KEY(0,K,S)
3150 IF S=0 THEN 3140
3160 CALL CLEAR
3170 PRINT "      ---------------                                                INSERI
RE I DATI                                          ---------------"::::::
3180 INPUT " *****************           ANGOLO IN GRADI ? ":D
3190 INPUT """    ""IN PRIMI ? ":M
3200 INPUT """    ""IN SECONDI?":S
3210 PRINT " *****************"::::::::
3220 A=D+M/60+S/3600
3230 R=INT(A/360)
3240 RADIANTE=A*0.1745329-R*6.2831853
3250 PRINT "L'ANGOLO DI GRADI : ";D;",PRIMI : ";M;",SECONDI : ";S;" E' UGUALE A
";RADIANTI;" RADIANTI"::::
3260 PRINT ::::::"PREMI 1NUOVI DATI 2CAMBIARE.":
3270 CALL KEY(0,K,S)
3280 IF S=0 THEN 3270
3290 IF K=ASC("1")THEN 3080
3300 IF K=ASC("2")THEN 3320
3310 GOTO 3270
3320 CALL CLEAR
3330 GOTO 1030
3340 CALL CLEAR
3350 PRINT "                              INTERPOLAZ
IONE LINEARE                              ":::
3360 PRINT "              PREMERE UN TASTO
":::
3370 CALL KEY(0,K,S)
3380 IF S=0 THEN 3370
3390 CALL CLEAR
3400 INPUT "COORDINATE(X,Y) DEL PRIMO PUNTO ? ":X1,Y1
3410 INPUT "COORDINATE(X,Y) DEL SECONDO PUNTO?":X2,Y2
3420 INPUT "INTERPOLAZIONE X = ?":X
3430 Y=Y1+(Y2-Y1)/(X2-X1)*(X-X1)
3440 PRINT "INTERPOLAZIONE Y = ";Y
3450 PRINT :::::"ALTRI PUNTI SU QUESTA LINEA   ?        (S/N)":
3460 CALL KEY(0,K,S)
3470 IF S=0 THEN 3460
3480 IF K=ASC("S")THEN 3420
3490 PRINT ::::
3500 PRINT "PREMI 1 RICOMINC. 2 CAMBIARE"
3510 PRINT ::::
3520 CALL KEY(0,K,S)
3530 IF S=0 THEN 3520
3540 IF K=ASC("1")THEN 3390
3550 IF K=ASC("2")THEN 3570
3560 GOTO 3520
3570 CALL CLEAR
3580 GOTO 1030
3590 CALL CLEAR
3600 PRINT "                             EQUAZIONI
 BIQUADRATICHE                            ":::::
3610 PRINT "               PREMERE UN TASTO
"::::
3620 CALL KEY(0,K,S)
3630 IF S=0 THEN 3620
3640 CALL CLEAR
3650 REM
3660 PRINT "EQUAZONE TIPO:":::"A*(X^4)+B*(X^2)+C=0"::::::::
3670 PRINT "  INSERIRE I COEFFICIENTI":::
3680 INPUT "COEFFICIENTE DI A ? ":A
```

```
3690 INPUT """        "" DI B ? ":B
3700 INPUT """        "" DI C ? ":C
3710 DELTA=(B^2)-(4*A*C)
3720 IF DELTA<0 THEN 3860
3730 SO=(-B+SQR(DELTA))/(2*A)
3740 IF SO<0 THEN 3880
3750 SOL=(-B-SQR(DELTA))/(2*A)
3760 IF SOL<0 THEN 3880
3770 PRS=SQR(SO)
3780 SEC=-SQR(SO)
3790 TES=SQR(SOL)
3800 QUS=-SQR(SOL)
3810 PRINT "1 SOLUZIONE=";PRS
3820 PRINT "2 ""     ""=";SEC
3830 PRINT "3 ""     ""=";TES
3840 PRINT "4 ""     ""=";QUS
3850 GOTO 3890
3860 PRINT "IL 1.DISCRIMINANTE E' ";DELTA;",PERCIO' ESSENDO ""<0"",L'EQUAZIONE N
ON AMMETTE SOLUZIONI REALI."
3870 GOTO 3890
3880 PRINT "IL 2.DISCRIMINANTE E' +/-";SO;",PERCIO' ESSENDO ""<0"",L'EQUAZIONE N
ON AMMETTE SOLUZIONI REALI."
3890 PRINT :::::
3900 PRINT :::"PREMI: 1)DI NUOVO,2)CAMBIARE"::
3910 CALL KEY(0,K,S)
3920 IF S=0 THEN 3910
3930 IF K=ASC("1")THEN 3640
3940 IF K=ASC("2")THEN 3960
3950 GOTO 3900
3960 CALL CLEAR
3970 GOTO 1030
3980 CALL CLEAR
3990 PRINT "                              PERMUTAZION
I E COMBINAZIONI                             ":::
4000 PRINT :::::::::"              PREMERE UN TASTO
 "::
4010 CALL KEY(0,K,S)
4020 IF S=0 THEN 4010
4030 CALL CLEAR
4040 INPUT "- NUMERO TOTALE DI OGGETTI ?":N
4050 INPUT "- QUANTI ALLA VOLTA ? ":D
4060 IF D<=N THEN 4090
4070 PRINT " *** ERRORE                       SOTTOGRUPPO                  TROPPO
GRANDE"::::
4080 GOTO 4040
4090 P=1
4100 C=1
4110 FOR I=N-D+1 TO N
4120 IF 1.7E38/I>=P THEN 4150
4130 PRINT "> 1.7E38 PERMUTAZIONI":::
4140 GOTO 4210
4150 P=P*I
4160 NEXT I
4170 FOR J=2 TO D
4180 C=C*J
4190 NEXT J
4200 PRINT "    RISULTATI:"::P;" PERMUTAZIONI"::P/C;"COMBINAZIONI":::
4210 PRINT "PREMI 1)DI NUOVO,2)CAMBIARE."
4220 CALL KEY(0,K,S)
4230 IF S=0 THEN 4220
4240 IF K=ASC("1")THEN 3980
4250 IF K=ASC("2")THEN 4270
4260 GOTO 4220
4270 CALL CLEAR
4280 GOTO 1030
4290 END
```

```
770 FOR J=1 TO LEN(B$)
780 L=ASC(SEG$(B$,J,1))
790 CALL HCHAR(14,16+J,L)
800 NEXT J
810 C$="PARABOLE"
820 FOR J=1 TO LEN(C$)
830 L=ASC(SEG$(C$,J,1))
840 CALL HCHAR(18,16+J,L)
850 NEXT J
860 CALL SOUND(150,659,2)
870 CALL SOUND(150,587,2)
880 CALL SOUND(300,523,2)
890 CALL SOUND(300,440,2)
900 CALL SOUND(300,698,2,440,5)
910 CALL SOUND(300,784,2,587,5)
920 CALL SOUND(150,698,2,392,5)
930 CALL SOUND(150,659,2)
940 CALL SOUND(1000,698,2,440,5)
950 FOR T=1 TO 1000
960 NEXT T
970 CALL CLEAR
1000 PRINT "PREMI:"::
1010 PRINT "1 STUDIO DELLA PARABOLA"::
1020 PRINT "2 INTERSEZIONE CON UNA RETTA"::
1030 PRINT "3 PARABOLA PASSANTE PER TRE   PUNTI"::
1035 PRINT "4 FINE"::::
1040 CALL KEY(0,K,S)
1050 IF S=0 THEN 1040
1060 IF K=49 THEN 1100
1070 IF K=50 THEN 2000
1080 IF K=51 THEN 3500
1085 IF K=52 THEN 10000
1090 GOTO 1040
1100 REM  *STUDIO PARABOLA*
1110 CALL CLEAR
1115 SCELTA=1
1120 PRINT "  EQUAZIONE DELLA PARABOLA"::
1130 PRINT TAB(9);"Y=A*X ";
1140 CALL HCHAR(24,16,35)
1150 PRINT TAB(15);"+B*X+C"::::
1160 GOSUB 3250
1170 CALL CLEAR
1180 VX=INT(-B*1000/(2*A))/1000
1190 DELTA=B^2-4*A*C
1200 VY=INT(-DELTA*1000/(4*A))/1000
1210 PRINT "COORDINATE DEL VERTICE:"::
1220 PRINT "V = (";VX;",";VY;")":::
1230 PRINT "ASSE DI SIMMETRIA:"::
1240 PRINT "X =";VX:::
1250 YF=INT(1000*(1/(4*A)-DELTA/(4*A)))/1000
1260 PRINT "COORDINATE DEL FUOCO:"::
1270 PRINT "F = (";VX;",";YF;")":::
1280 YD=INT(1000*(-1/(4*A)-DELTA/(4*A)))/1000
1290 PRINT "DIRETTRICE:"::
1300 PRINT "Y =";YD::::
1310 GOSUB 5000
1320 PRINT "INTERSEZIONE CON L'ASSE Y:"::
1330 PRINT "Y =";C:::
1332 IF DELTA>=0 THEN 1340
1334 PRINT "LA PARABOLA NON INTERSECA   L'ASSE DELLE X.":::: 
1336 GOTO 1380
1340 X1=(-B-SQR(DELTA))/(2*A)
1350 X2=(-B+SQR(DELTA))/(2*A)
1360 PRINT "INTERSEZIONE CON L'ASSE X:"::
1370 PRINT "X1 =";INT(1000*X1)/1000,"X2 =";INT(1000*X2)/1000:::::
1380 INPUT "VUOI IL GRAFICO?  ":R$
```

```
100 REM  ****************
110 REM  *               *
120 REM  *   GEOMETRIA   *
130 REM  *   ANALITICA   *
140 REM  *       -       *
150 REM  *   PARABOLE.   *
160 REM  *               *
170 REM  ****************
180 REM
190 REM
200 CALL CLEAR
210 CALL CHAR(128,"0000000000006060")
220 CALL CHAR(129,"000000006060")
230 CALL CHAR(130,"00006060")
240 CALL CHAR(131,"6060")
250 CALL CHAR(132,"0000000000000606")
260 CALL CHAR(133,"0000000000006666")
270 CALL CHAR(134,"0000000060600606")
280 CALL CHAR(135,"0000606000000606")
290 CALL CHAR(136,"6060000000000606")
300 CALL CHAR(137,"000000000606")
310 CALL CHAR(138,"0000000006066060")
320 CALL CHAR(139,"000000006666")
330 CALL CHAR(140,"000060600606")
340 CALL CHAR(141,"606000000606")
350 CALL CHAR(142,"00000606")
360 CALL CHAR(143,"0000060600006060")
370 CALL CHAR(144,"000006066060")
380 CALL CHAR(145,"00006666")
390 CALL CHAR(146,"60600606")
400 CALL CHAR(147,"0606")
410 CALL CHAR(148,"0606000000006060")
420 CALL CHAR(149,"060600006060")
430 CALL CHAR(150,"06066060")
440 CALL CHAR(151,"6666")
450 CALL CHAR(152,"0301010101010101")
460 CALL CHAR(153,"FF01")
470 CALL CHAR(154,"0F01010101010101")
480 CALL CHAR(155,"FF010101")
490 CALL CHAR(156,"FF01010101010101")
500 CALL CHAR(157,"0")
505 CALL CHAR(35,"701070407")
510 DEF Y=A*X*X+B*X+C
600 REM  * TITOLO *
610 FOR C=13 TO 15
620 CALL COLOR(C,2,16)
630 NEXT C
640 CALL COLOR(16,9,16)
650 FOR RIGA=4 TO 22
660 CALL HCHAR(RIGA,3,157,12)
670 NEXT RIGA
680 CALL HCHAR(13,3,153,12)
690 CALL VCHAR(4,8,152,19)
700 CALL HCHAR(13,8,156)
701 A=-.7
702 B=-10
703 C=-32
705 GOSUB 3000
710 A$="GEOMETRIA"
720 FOR J=1 TO LEN(A$)
730 L=ASC(SEG$(A$,J,1))
740 CALL HCHAR(12,16+J,L)
750 NEXT J
760 B$="ANALITICA"
```

BASIC

```
1390 IF SEG$(R$,1,1)="S" THEN 1410
1400 GOTO 970
1410 SCALA=1
1420 GOSUB 6000
1430 GOSUB 3000
1432 IF SCELTA=2 THEN 2300
1435 GOSUB 5100
1440 GOSUB 5000
1450 INPUT "VUOI IL GRAFICO CON UN ALTROFATTORE DI SCALA? (S/N) ":R$
1460 IF SEG$(R$,1,1)="S" THEN 1480
1470 GOTO 970
1480 PRINT ::::
1482 A=A/SCALA
1484 C=C*SCALA
1490 INPUT "SCALA? (N>0) ":SCALA
1500 IF SCALA<=0 THEN 1490
1600 A=A*SCALA
1610 C=C/SCALA
1620 CALL CLEAR
1630 GOTO 1420
1990 REM  *INTERSEZIONE*
2000 CALL CLEAR
2010 PRINT "INTERSEZIONE CON UNA RETTA"::::
2020 INPUT "VUOI SCRIVERE I COEFFICIENTIIN FORMA FRAZIONARIA? ":R$
2030 IF SEG$(R$,1,1)="N" THEN 2100
2040 PRINT "PARABOLA:"::
2050 GOSUB 3310
2060 PRINT ::::
2070 PRINT "RETTA:"::
2080 INPUT "COEFF. ANGOLARE? (M1,M2) ":M1,M2
2081 IF M2<>0 THEN 2084
2082 PRINT "ERRORE!"::
2083 GOTO 2080
2084 M=M1/M2
2090 INPUT "TERMINE NOTO? (Q1,Q2) ":Q1,Q2
2091 IF Q2<>0 THEN 2094
2092 PRINT "ERRORE!"::
2093 GOTO 2090
2094 Q=Q1/Q2
2095 GOTO 2150
2100 PRINT "PARABOLA:"::
2110 INPUT "(A,B,C)  ":A,B,C
2120 PRINT ::::
2130 PRINT "RETTA:"::
2140 INPUT "(M,Q)  ":M,Q
2150 PRINT ::::
2152 AA=A
2154 BB=B
2156 CC=C
2160 DISCR=(B-M)^2-4*A*(C-Q)
2170 IF DISCR>=0 THEN 2200
2180 PRINT "NON ESISTONO PUNTI DI INTER-SEZIONE"::::
2190 GOSUB 5000
2195 GOTO 2270
2200 X1=(-(B-M)-SQR(DISCR))/(2*A)
2210 X2=(-(B-M)+SQR(DISCR))/(2*A)
2220 Y1=M*X1+Q
2230 Y2=M*X2+Q
2240 PRINT "PUNTI DI INTERSEZIONE:"::
2250 PRINT "P1 = (";INT(1000*X1)/1000;",";INT(1000*Y1)/1000;")"::
2260 PRINT "P2 = (";INT(1000*X2)/1000;",";INT(1000*Y2)/1000;")"::::
2270 SCELTA=2
2280 GOTO 1380
2300 A=0
2310 B=M
2320 C=Q
2330 GOSUB 3000
2340 GOSUB 5200
2350 GOSUB 5000
2360 INPUT "VUOI IL GRAFICO CON UN ALTROFATTORE DI SCALA? (S/N) ":R$
2370 IF SEG$(R$,1,1)="S" THEN 2390
2380 GOTO 970
2390 PRINT ::::
2400 AA=AA/SCALA
2410 CC=CC*SCALA
2415 Q=Q*SCALA
2420 INPUT "SCALA? (N>0) ":SCALA
2430 IF SCALA<=0 THEN 2420
2440 AA=AA*SCALA
2450 CC=CC/SCALA
2455 Q=Q/SCALA
2460 A=AA
2470 B=BB
2480 C=CC
2490 CALL CLEAR
2500 GOSUB 6000
2510 GOSUB 3000
2520 GOTO 2300
2990 REM  *ROUTINE STAMPA*
3000 FOR XX=-12 TO 12
3010 X=XX-.75
3020 IF ABS(Y)>10 THEN 3105
3030 DIFF=Y-INT(Y)
3040 IF DIFF<.1 THEN 3080
3050 RIGA1=INT(Y)+1
3060 P1=INT(DIFF*4)+1
3070 GOTO 3100
3080 RIGA1=INT(Y)
3090 P1=4
3100 CALL HCHAR(13-RIGA1,16+XX,127+P1)
3102 GOTO 3110
3105 P1=0
3110 X=XX-.25
3120 IF ABS(Y)>10 THEN 3210
3130 DIFF=Y-INT(Y)
3140 IF DIFF<.1 THEN 3180
3150 RIGA2=INT(Y)+1
3160 P2=(INT(DIFF*4)+1)*5
3170 GOTO 3195
3180 RIGA2=INT(Y)
3190 P2=20
3195 IF RIGA1=RIGA2 THEN 3200
3196 P1=0
3200 CALL HCHAR(13-RIGA2,16+XX,127+P1+P2)
3210 NEXT XX
3220 RETURN
3240 REM  * INPUT A,B,C *
3250 INPUT "VUOI SCRIVERE LE COSTANTI INFORMA FRAZIONARIA? (S/N) ":R$
3260 PRINT :::
3270 IF SEG$(R$,1,1)="S" THEN 3300
```

```
4890 REM  *DETERMINANTE*
4900 DETERM=D1*(D5*D9-D8*D6)-D2*(D4*D9-D7*D6)+D3*(D4*D8-D7*D5)
4910 IF DETERM<>0 THEN 4990
4920 PRINT :::
4930 PRINT "SPIACENTE, NON POSSO DARE LARISPOSTA.":::
4940 FOR T=1 TO 1000
4950 NEXT T
4960 GOTO 970
4990 RETURN
5000 CC$="* PREMI 1 PER CONTINUARE"
5010 FOR J=1 TO LEN(CC$)
5020 L=ASC(SEG$(CC$,J,1))
5030 CALL HCHAR(24,3+J,L)
5040 NEXT J
5050 CALL KEY(0,K,S)
5060 IF S=0 THEN 5050
5070 IF K<>49 THEN 5050
5080 CALL CLEAR
5090 RETURN
5100 CALL SOUND(150,440,2)
5110 CALL SOUND(150,466,2)
5120 CALL SOUND(300,523,2)
5130 CALL SOUND(300,440,2)
5140 CALL SOUND(300,587,2)
5150 CALL SOUND(300,784,2)
5160 CALL SOUND(500,659,2)
5170 RETURN
5200 CALL SOUND(300,698,2)
5210 CALL SOUND(300,932,2)
5220 CALL SOUND(300,784,2)
5230 CALL SOUND(300,880,2)
5240 CALL SOUND(150,932,2)
5250 CALL SOUND(150,880,2)
5260 CALL SOUND(150,784,2)
5270 CALL SOUND(150,880,2)
5280 CALL SOUND(500,698,2)
5290 RETURN
6000 REM  *ASSI CARTESIANI*
6005 CALL CLEAR
6010 FOR CO=13 TO 15
6020 CALL COLOR(CO,2,1)
6030 NEXT CO
6040 CALL COLOR(16,9,1)
6050 CALL HCHAR(13,3,153,28)
6060 CALL VCHAR(3,16,152,20)
6070 FOR COLON=6 TO 26 STEP 5
6080 CALL HCHAR(13,COLON,155)
6090 NEXT COLON
6095 CALL HCHAR(13,16,156)
6100 CALL HCHAR(8,16,154)
6110 CALL HCHAR(18,16,154)
6120 SCAL$="SCALA= 1 : "&STR$(SCALA)
6130 FOR J=1 TO LEN(SCAL$)
6140 L=ASC(SEG$(SCAL$,J,1))
6150 CALL HCHAR(1,2+J,L)
6160 NEXT J
6170 RETURN
10000 CALL CLEAR
10010 PRINT "            FINE":::::::::
10020 GOSUB 5200
10030 FOR T=1 TO 500
10040 NEXT T
10050 CALL CLEAR
10060 END
```

```
3540 IF SEG$(R$,1,1)="S" THEN 3600
3550 PRINT ::::
3560 PRINT "PUNTO 1:"::
3570 INPUT "COORDINATE? (X,Y)  ":X1,Y1
3580 PRINT ::"PUNTO 2:"::
3590 INPUT "COORDINATE? (X,Y)  ":X2,Y2
3600 PRINT ::"PUNTO 3:"::
3610 INPUT "COORDINATE? (X,Y)  ":X3,Y3
3620 PRINT ::::
3630 D1=X1*X1
3640 D2=X1
3650 D3=1
3660 D4=X2*X2
3670 D5=X2
3680 D6=1
3690 D7=X3*X3
3700 D8=X3
3710 D9=1
3720 GOSUB 4900
3730 DD=DETERM
3740 D1=Y1
3750 D4=Y2
3760 D7=Y3
3770 GOSUB 4900
3780 DD1=DETERM
3790 D1=X1*X1
3800 D4=X2*X2
3810 D7=X3*X3
3820 D2=Y1
3830 D5=Y2
3840 D8=Y3
3850 GOSUB 4900
3860 DD2=DETERM
3870 D2=X1
3880 D5=X2
3890 D8=X3
3900 D3=Y1
3910 D6=Y2
3920 D9=Y3
3930 GOSUB 4900
3940 DD3=DETERM
3950 A=INT(1000*DD1/DD)/1000
3960 B=INT(1000*DD2/DD)/1000
3970 C=INT(1000*DD3/DD)/1000
3980 PRINT "       Y=A*X ";
3990 CALL HCHAR(24,14,35)
4000 PRINT TAB(15);"+B*X+C":::
4010 PRINT "A =";A
4020 PRINT "B =";B
4030 PRINT "C =";C::::::
4040 GOTO 1380
```

```
3280 INPUT "COSTANTI? (A,B,C)":A,B,C
3290 GOTO 3370
3300 REM  *FRAZIONI*
3310 INPUT " A = (A1,A2)  ":A1,A2
3320 INPUT " B = (B1,B2)  ":B1,B2
3330 INPUT " C = (C1,C2)  ":C1,C2
3340 A=A1/A2
3350 B=B1/B2
3360 C=C1/C2
3370 IF A<>0 THEN 3400
3380 PRINT ::"NON RISULTA UNA RETTA!!!":::
3390 GOTO 3250
3400 RETURN
3490 REM  *PARABOLA PER 3 P*
3500 CALL CLEAR
3510 SCELTA=3
3520 PRINT "PARABOLA PASSANTE PER TRE   PUNTI.":::
3530 INPUT "VUOI SCRIVERE LE COORDINATE IN FORMA FRAZIONARIA?  ":R$
```

CONTINUA CON IL 4890

```
100 REM ******************
110 REM *    CANNIBALS   *
120 REM ******************
130 REM
140 REM
150 REM
160 REM
170 REM TI BASIC, OR
180 REM TI EXTENDED BASIC
190 REM
200 GOSUB 380
210 DIM D(6,2)
220 CALL CLEAR
230 PRINT "TYPE 1- FOR JOYSTICK.": : : :"TYPE 2- FOR ARROW KEYS.": : : : : : : :
 :
240 CALL KEY(0,K,S)
250 IF S=0 THEN 240
260 IF K=49 THEN 290
270 IF K=50 THEN 340
280 GOTO 240
290 AA=1
300 CALL CLEAR
310 CALL SCREEN(7)
320 PRINT "PLACE ALPHA LOCK UP."
330 GOTO 350
340 PRINT "PRESS ALPHA LOCK DOWN."
350 FOR DEL=1 TO 200
360 NEXT DEL
370 GOTO 560
380 CALL CLEAR
390 PRINT "***************************"
400 PRINT "*  *"
410 PRINT "*        CANNIBALS        *"
420 PRINT "*  *"
430 PRINT "***************************"
440 RESTORE 490
450 FOR NOTE=1 TO 29
460 READ A,B
470 PRINT
480 CALL SOUND(200*A,B/2.7,0)
490 DATA 1,1109,1,1661,1,1397,.5,1245,.5,1397,2,1109,2,831
500 DATA 1,1109,1,1661,1,1397,.5,1245,.5,1397,2,1109,2,831,1,44000
510 DATA 1,1109,1,1397,.5,1245,.5,1109,2,1245,2,1661,1,44000
520 DATA 1,1109,1,1397,.5,1245,.5,1109,2,1245,2,831,1,44000
530 NEXT NOTE
540 RANDOMIZE
550 RETURN
560 FOR T=1 TO 100
570 NEXT T
580 LI=0
590 CALL CLEAR
600 REM DEFINE GRAPHICS AND COLOR
610 RESTORE 2320
620 FOR X=1 TO 19
630 READ A,A$
640 CALL CHAR(A,A$)
650 NEXT X
660 FOR X=9 TO 14
670 READ A,B
680 CALL COLOR(X,A,B)
690 NEXT X
700 CALL COLOR(1,6,4)
710 CALL CLEAR
720 CALL SCREEN(4)
730 CALL HCHAR(19,1,128,192)
740 FOR X=1 TO 20
750 CALL HCHAR(RND*5+19,RND*28+3,129)
760 NEXT X
770 REM LOCATE SHIP
780 M=INT(24*RND+3)
790 CALL HCHAR(20,M,96)
800 CALL HCHAR(20,M+1,97,3)
810 CALL HCHAR(20,M+4,98)
820 CALL HCHAR(19,M+2,99)
830 GOSUB 1840
840 CALL HCHAR(1,1,32,576)
850 FOR X=1 TO INT(ABS(10-SAFE))*10
860 CALL HCHAR(INT(RND*18)+1,INT(RND*28)+3,33)
870 NEXT X
880 FOR R=1 TO 6
890 D(R,1)=INT(17*RND+1)
900 D(R,2)=INT(28*RND+3)
910 CALL GCHAR(D(R,1),D(R,2),CH)
920 IF CH<>32 THEN 890
930 IF R=5 THEN 980
940 IF R=6 THEN 970
950 CALL HCHAR(D(R,1),D(R,2),112)
960 GOTO 980
970 CALL HCHAR(D(R,1),D(R,2),104)
980 NEXT R
990 IF AA=1 THEN 1020
1000 GOSUB 1980
1010 GOTO 1030
```

```
1020 GOSUB 2280
1030 ZZ=ABS(ZZ-1)
1040 IF ZZ=1 THEN 990
1050 FOR X=1 TO 4
1060 MCX=(D(X,1)<D(6,1))-(D(X,1)>D(6,1))
1070 MCY=(D(X,2)<D(6,2))-(D(X,2)>D(6,2))
1080 IF (D(X,1)-MCX>18)+(D(X,1)-MCX<1)+(D(X,2)-MCY>31)+(D(X,2)-MCY<2)THEN 1190
1090 CALL GCHAR(D(X,1)-MCX,D(X,2)-MCY,CH)
1100 IF (CH=104)+(CH=32)THEN 1140
1110 MCX=INT(RND*3)-1
1120 MCY=INT(RND*3)-1
1130 GOTO 1080
1140 D(X,1)=D(X,1)-MCX
1150 D(X,2)=D(X,2)-MCY
1160 IF (D(X,2)=D(6,2))*(D(X,1)=D(6,1))THEN 1630
1170 CALL HCHAR(D(X,1)+MCX,D(X,2)+MCY,32)
1180 CALL HCHAR(D(X,1),D(X,2),112)
1190 NEXT X
1200 GOTO 990
1210 REM MADE IT TO BOAT
1220 RESTORE 1270
1230 FOR I=1 TO 11
1240 READ P,N
1250 CALL SOUND(300*P,N,0)
1260 NEXT I
1270 DATA 1,932,1,932,2,1047,1,1047,1,1047,2,1047,1,1397,1,1245,1,1175,2,932,1,4
4000
1280 SAFE=SAFE+1
1290 GOTO 1610
1300 REM CHECK FOR WIN
1310 FOR WIN=0 TO 4
1320 IF D(6,2)=WIN+M THEN 1220
1330 NEXT WIN
1340 REM SHARK EAT
1350 Z=D(6,2)+(D(6,2)=30)+(D(6,2)=31)*2
1360 CALL COLOR(9,16,5)
1370 CALL HCHAR(19,Z,137)
1380 CALL HCHAR(19,Z+1,139)
1390 CALL HCHAR(20,Z,138)
1400 CALL HCHAR(20,Z+1,140)
1410 CALL HCHAR(21,Z+3,141)
1420 FOR J=1 TO 6
1430 CALL HCHAR(20,Z,136)
1440 CALL SOUND(250,-5,0)
1450 CALL HCHAR(20,Z,138)
1460 CALL SOUND(250,44000,30)
1470 NEXT J
1480 RESTORE 1520
1490 FOR SHA=1 TO 18
1500 READ A,B
1510 CALL SOUND(300*A,B/2,0)
1520 DATA 1,1109,1,1319,1,1480,1,44000,3,1480
1540 DATA 1,1109,1,1319,1,1480,1,44000,3,1480
1550 DATA 1,1661,1,1661,2,1480
1560 NEXT SHA
1570 DEAD=DEAD+1
1580 CALL HCHAR(21,Z+3,128,4)
1590 CALL HCHAR(20,Z+1,128,2)
1600 CALL HCHAR(19,Z+1,128,2)
1610 CALL HCHAR(19,1,128,64)
1620 GOTO 780
1630 CALL HCHAR(D(6,1),D(6,2),120)
1640 CALL HCHAR(D(6,1),D(6,2)+1,121)
1650 CALL HCHAR(D(6,1)+1,D(6,2),122)
1660 CALL HCHAR(D(6,1)+1,D(6,2)+1,123)
```

```
1670 RESTORE 1720
1680 FOR SMO=1 TO 11
1690 READ A,B
1700 CALL SOUND(400*A,B/2,0)
1710 NEXT SMO
1720 DATA 2,1109,1,1047,1,1245,1,1109,1,932,2,1480
1730 DATA 1,1397,1,1661,1,1480,1,1245,2,2218
1740 DEAD=DEAD+1
1750 CALL HCHAR(D(6,1),D(6,2),32,2)
1760 CALL HCHAR(D(6,1)+1,D(6,2),32,2)
1770 GOTO 1610
1780 REM SUB TO CONT.
1790 CALL KEY(0,K,S)
1800 IF S=0 THEN 1790
1810 CALL CLEAR
1820 RETURN
1830 REM SCORE DISPLAY
1840 A$="CANNIBALS:"&STR$(DEAD)
1850 PX=1
1860 GOSUB 1940
1870 A$="LIVINGSTON:"&STR$(SAFE)
1880 PX=2
1890 GOSUB 1940
1900 FOR TD=1 TO 200
1910 NEXT TD
1920 CALL HCHAR(1,1,32,64)
1930 RETURN
1940 FOR X=1 TO LEN(A$)
1950 CALL HCHAR(PX,X+3,ASC(SEG$(A$,X,1)))
1960 NEXT X
1970 RETURN
1980 CALL KEY(1,K,S)
1990 MX=0
2000 MY=0
2010 IF (S<>0)*(K<6)THEN 2030
2020 RETURN
2030 ON K+1 GOTO 2040,2020,2060,2080,2020,2100
2040 MX=1
2050 GOTO 2110
2060 MY=-1
2070 GOTO 2110
2080 MY=1
2090 GOTO 2110
2100 MX=-1
2110 IF (D(6,1)=1)*(MX=-1)THEN 2020
2120 IF D(6,1)+MX>18 THEN 1310
2130 CALL GCHAR(D(6,1)+MX,D(6,2)+MY,CH)
2140 IF CH=33 THEN 2020
2150 D(6,1)=D(6,1)+MX
2160 D(6,2)=D(6,2)+MY
2170 CALL HCHAR(D(6,1)-MX,D(6,2)-MY,32)
2180 IF D(6,2)>1 THEN 2210
2190 D(6,2)=31
2200 GOTO 2260
2210 IF D(6,2)<32 THEN 2240
2220 D(6,2)=2
2230 GOTO 2260
2240 IF D(6,1)>0 THEN 2260
2250 D(6,1)=1
2260 CALL HCHAR(D(6,1),D(6,2),104)
2270 RETURN
2280 CALL JOYST(1,MY,MX)
2290 MX=SGN(-MX)
2300 MY=SGN(MY)
2310 GOTO 2110
2320 DATA 96,000000003F1F0F07,97,FFAAFFFFFFFFFFFF,98,000000FFFFFFFEFC,99,0000000
0C3C3C3C3
2330 DATA 104,1050503C113A2440,112,1010FC1028452210,120,0303010701 1F1F0F,121,808
000E000FBFBF0
2340 DATA 122,0F0F07,123,F0F0E0,128,00,129,0000102844,136,7F3F1F0F070FFFFF,137,E
0F0FBFCFEFFFFFB
2350 DATA 138,7F3F3F3F1F0F0703,139,0000000000000B0C0,140,E0F0F8FCFEFFFFFF,141,FF7
E3C18,33,00187EFFFF7E18
2360 DATA 15,5,5,4,2,4,7,4,16,5,15,5
```

FINE

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```
100 REM  ******************
110 REM  *                *
120 REM  *VALENTINO VIZZARI*
130 REM  * S.COSTANTINO C. *
140 REM  *    OTT 983     *
150 REM  *                *
160 REM  * FRANCOMPUTERCLUB
170 REM  ******************
180 CALL CLEAR
190 DISPLAY "CALCOLO DELLE COORDINATE DEL VERTICE ISOLATO O STAZIONE -V-,NOTE:"
200 DISPLAY
210 DISPLAY "LE COORDINATE(X,Y) DEL PUNTO VICINO -A- E DEL PUNTO LONTANO -B-;"
220 DISPLAY
230 DISPLAY "LE LETTURE ANGOLARI IN -A- E -B-;"
240 DISPLAY
250 DISPLAY "LA DISTANZA -VA- DALLA STAZIONE AL PUNTO VICINO -A-"
260 DISPLAY
270 PRINT
280 PRINT "**** CALCOLO DEL VERTICE ISOLATO ****"
290 PRINT
300 DISPLAY "COORDINATE DI A E B?"
310 INPUT XA,YA,XB,YB
320 PRINT "XA=";XA,"YA=";YA,"XB=";XB,"YB=";YB
330 DX=XA-XB
340 DY=YA-YB
350 PRINT
360 PRINT "DX=";DX,"DY=";DY
370 PRINT
380 AZIMUT(AB)=ATN(DY/DX)*(200/(4*ATN(1)))
390 PRINT "AZIMUT (AB)=";AZIMUT(AB)
400 PRINT
410 D=SQR((DX^2)+(DY^2))
420 PRINT "D=";D
430 PRINT
440 DISPLAY "DIREZIONE AL CENTRO E AL PUNTO?"
450 INPUT VA,VB
460 PRINT
470 PRINT "DIR CENTRO (VA)=";(VA):"DIR PUNTO  (VB)=";(VB)
480 IF (VA)>(VB)THEN 490
490 V=(VA)-(VB)
500 IF (VA)<(VB)THEN 510
510 V=((VA)+400)-(VB)
520 PRINT
530 PRINT "                V=";V
540 PRINT
550 DISPLAY "DATI E,V,D?"
560 INPUT E,V,D
570 PRINT
580 PRINT "E=";E
590 PRINT
600 W=(E*SIN(V*(4*ATN(1))/200))/D*63.661977
610 PRINT "W=";W
620 PRINT
630 DISPLAY "DIREZ AL PUNTO E ANGOLO W(ANGOLO IN B)="
640 INPUT VB,W
650 PRINT
660 PRINT "DIR PUNTO (VB)=";(VB):"ANGOLO       W=";W
670 PRINT
680 AB=(VB)-W
690 PRINT "              AB=";AB
700 PRINT
710 DISPLAY "DIR (AV) E AB?"
720 INPUT AV,AB
730 PRINT
740 BAV=AB-AV
750 PRINT " AB     =";AB
760 PRINT "(AV)    =";(AV)
770 PRINT
780 PRINT "BAV     =";BAV
790 PRINT
800 REM  CALCOLO DEL DEV'ESSERE
810 DISPLAY "AZIMUT (AB) E ANGOLO BAV?"
820 INPUT AZIMUT(AB),BAV
830 PRINT
840 DE=AZIMUT(AB)+(BAV)
850 PRINT "AZIMUT (AB) =";AZIMUT(AB)
860 PRINT "ANGOLO (BAV)=";(BAV)
870 PRINT
880 PRINT "DE          =";DE
890 PRINT
900 DISPLAY "E,(DE)?"
910 INPUT E,DE
920 DX=(E*COS(DE*(4*ATN(1))/200))
930 DY=(E*SIN(DE*(4*ATN(1))/200))
940 DISPLAY "XA,YA?"
950 INPUT XA,YA
960 PRINT "XA   =";XA:"YA   =";YA
970 PRINT
980 PRINT "DX=";DX:"DY=";DY
990 PRINT
1000 XV=XA+DX
1010 YV=YA+DY
1020 PRINT "XV=";XV;"YV=";YV
1030 END
```

EX. B.

I 'POKE' IN BASIC : ovvero

COME FARE IMPAZZIRE IL TI-99/4A !!

(By RANDONE CARLO)

Come è noto, il TI-99 non permette, nelle configurazioni base (TI BASIC) ed EXTENDED BASIC, l'uso dell'istruzione POKE che, nella maggioranza dei personal computer in commercio, serve a porre dei valori in determinate locazioni di memoria, nonchè a programmare in linguaggio macchina.

Nonostante questo fatto, rilevabile fra l'altro dall'organizzazione interna del TI-99 (suddiviso in Video Display Processor ad indirizzamento indiretto e CPU), esiste il modo di accedere a delle locazioni di memoria in modo da ottenere degli effetti alquanto "strani".

Tutti gli esempi sotto riportati si riferiscono alla configurazione EXTENDED BASIC, ma sono utilizzabili anche in TI-BASIC, tenendo conto di quanto segue:

a) Al punto c della PROVA 1 e della PROVA 2, digitare 'REM' al posto di '!', in quanto il TI-BASIC non accetta il punto esclamativo al posto della parola 'REM';

b) Al comando 'LIST' (cfr. PROVA 2), se si usa il TI-BASIC si ottiene un insieme di linee orizzontali con i colori che si cambiano successivamente; il risultato è comunque meno 'spettacolare' che non usando l'Extended Basic.

PROVA 1

a) Accendere il TI-99/4A.

b) Selezionare l'Extended Basic.

c) Premere, nell'ordine, i seguenti tasti:

Abbiamo quindi scritto una linea di programma, contenente 3 caratteri: un 1, un !, un CTRL U (ASCII 149) che, non essendo definito, non è visibile sul video.

d) Dopo aver impostata la linea, premere ENTER per memorizzarla.

e) Effettuare l'EDIT della linea, procedendo, come di consueto, in 2 fasi :
   - digitare il numero di linea, che in questo caso è 1 ;
   - premere FCTN X (ossia ↓).

Comparirà :

1 !RANDOMIZE

Questo significa che l'ASCII 149 (CTRL U) è stato interpretato dal TI-99/4A come la parola del linguaggio basic 'RANDOMIZE'.
Ciò che interessa far notare sono 2 fatti :

1) In ogni caso, l'EDIT porta il cursore subito dopo il numero di linea;
2) CTRL U occupa un carattere (l'ASCII 149), mentre RANDOMIZE ne occupa ben 9.

Poste queste indispensabili premesse, si può ora passare alla :

PROVA 2

a) Accendere il TI-99/4A (se è già acceso dare un BYE).

b) Selezionare l'Extended Basic.

c) Digitare la seguente linea di programma:

1! seguito da 69 volte CTRL U

d) Premere, quindi, ENTER per memorizzare la linea.

e) Effettuare l'edit della linea 1, digitando 1 e premendo FCTN X (ossia ↓).

Ognuno dei 69 CTRL U sarà visualizzato come un RANDOMIZE, amplificando così di 9 volte la lunghezza della linea 1.
Questo fa sì che il numero di linea (1) esca superiormente dal video. Ma, come sappiamo, l'EDIT riposiziona il cursore immediatamente dopo il numero di linea, per cui, essendo tale numero fuori dal video, concettualmente il cursore risulta posizionato

da qualche parte (!) nella memoria del TI-99. Stà di fatto che il cursore non ricompare più sul video.

Ad EDIT terminato, le stranezze iniziano: lo schermo, da ciano che era, diventa blu scuro.

Arrivati a questo punto si procede così : (procedendo diversamente... ...basta provare !!!)

f) Premere 6Ø volte FCTN 1 (ossia 'DEL')
   la schermata scorre verso sinistra (anzichè, come succede di norma, verso l'alto); il video passa continuamente dal blu al bianco.

g) Premere 58 volte il tasto 1 (uno)
   Al termine, lo schermo risulta verde e sono presenti delle righe bianche.

h) Premere 2Ø volte il tasto Ø (zero)
   Al termine, i bordi superiore ed inferiore dello schermo risultano grigi, mentre il resto del video è occupato da linee verdi e blu.

i) Premere ENTER.
   Si ha l'emissione di un suono e lo schermo diventa ciano, con numerosi caratteri bianchi visualizzati (segmenti e punti).

l) Digitare LIST (anche se i caratteri che vengono digitati non sono visibili) e premere ENTER.
   Il LIST che si ottiene è alquanto strano; è però possibile vedere come il TI-99 riesca, dopo questo "trattamento", a gestire il colore di ogni singolo PIXEL !!

Per fermare l'esecuzione, premere FCTN = ('QUIT').

NB.: in TI-BASIC i colori del video risultano diversi da quelli sopra esposti ai punti e,f,g,h,i.

Continuando su questa 'promettente' strada, le stranezze che il TI-99 mette in scena sono innumerevoli. Chi riuscisse ad ottenere dei risultati positivi operando sulla linea tracciata da queste mie poche righe, me lo faccia sapere. Grazie.

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```
100 !***********************
110 !
120 ! SPRITE COLOR GRAPHICS
130 !
140 !
150 ! TI EXTENDED BASIC
160 !
170 !***********************
180 CALL CLEAR :: CALL SCREEN(11)
185 DISPLAY AT(2,5):"SPRITE COLOR GRAPHICS"
190 CALL CHAR(96,"000F1F3F7171FFFFFFF371783C1F0F0300F0F8FC8E8EFFFFFFCF8E1E3CF8F0
C0")
200 CALL CHAR(100,"3F70E0C08002000000000000000C0F0FC0E07030110000000000000000
30F")
210 CALL CHAR(108,"3F70E0C08004000000000000000C0F0FC0E07030120000000000000000
30F")
220 CALL CHAR(112,"00000000E8E4040404884030000000C000000007171020202122 1C000000
030")
230 CALL CHAR(116,"3F70E0C08008000000000000000C0F0FC0E07030140000000000000000
30F")
240 CALL CHAR(124,"0000000E0001010301040B0483E0300000000070008080C08020D020C1070
C")
250 CALL CHAR(132,"0000000E0001010301040B0480E3300000000070008080C08020D02001C70
C")
260 CALL COLOR(12,2,2)
270 CALL HCHAR(11,15,120,4):: CALL HCHAR(12,15,120,4):: CALL HCHAR(13,15,120,4):
: CALL HCHAR(14,15,120,4)
280 CALL MAGNIFY(4)
290 CALL SPRITE(£1,32,1,81,255,£2,32,1,81,255,£3,32,1,81,255,£4,32,1,81,255)
300 CALL SPRITE(£5,124,7,81,113)
310 CALL SPRITE(£6,108,6,81,113)
320 CALL SPRITE(£7,112,16,81,113)
330 CALL SPRITE(£8,96,10,81,113)
340 FOR X=1 TO 4 :: DISPLAY AT(24,1)BEEP:"PRESS ENTER";:: ACCEPT AT(24,13)SIZE(1
):A$ :: CALL MOTION(£X,-2,0):: NEXT X
350 FOR X=1 TO 1000 :: NEXT X :: CALL DELSPRITE(£1,£2,£3,£4)
360 DISPLAY AT(24,1):"                ";
370 CALL PATTERN(£6,100):: D=70 :: GOSUB 430
380 CALL PATTERN(£6,108):: D=20 :: GOSUB 430
390 CALL PATTERN(£5,132):: D=10 :: GOSUB 430
400 CALL PATTERN(£6,116):: D=70 :: GOSUB 430
410 CALL PATTERN(£6,108):: D=20 :: GOSUB 430
420 CALL PATTERN(£5,124):: D=10 :: GOSUB 430 :: GOTO 370
430 FOR TD=1 TO D :: NEXT TD :: RETURN
```

```
180 CALL CLEAR :: GAME=0
190 CALL SCREEN(4)
200 CALL CHAR(120,"FF8080808080808OFF0000000000000080808080808080800O")
210 SOL1$="0101010707070707C4C4C4F4F4F4FCF4070703030303070OE4E4646464647400" ::
CALL CHAR(128,SOL1$,136,SOL1$)
220 CALL CHAR(140,"0001010D0D6F6F7F008080B0B0F6F6FE7F7F7F7F3F1F0000FEFEFEFEFCF8"
):: CALL COLOR(12,2,12,13,16,2,14,7,16)
230 DISPLAY AT(10,11):"TABLUT" :: DISPLAY AT(12,7):"BY J. MULLIGAN" :: FOR Z=1 T
O 15 :: CALL SOUND(-10,110*Z,0):: NEXT Z
240 REM *** INITIALIZE ***
250 DIM TB(9,9)
260 KING=0 :: KC=5 :: KR=5 :: PN=1 :: FG=0
270 GOSUB 310 :: CALL CLEAR :: CALL SCREEN(8)
280 GOSUB 420
290 GOSUB 510 :: GOSUB 810 :: GOSUB 870 :: GOSUB 1010
300 IF KING=1 THEN GOTO 1070 ELSE IF KING=2 THEN GOTO 1090 ELSE GOTO 290
310 REM ** SET UP BOARD **
320 RESTORE 330 :: FOR R=1 TO 9 :: FOR C=1 TO 9 :: READ TB(R,C):: NEXT C :: NEXT
 R :: RETURN
330 DATA 0,0,0,3,3,3,0,0,0
340 DATA 0,0,0,0,3,0,0,0,0
350 DATA 0,0,0,0,2,0,0,0,0
360 DATA 3,0,0,0,2,0,0,0,3
370 DATA 3,3,2,2,1,2,2,3,3
380 DATA 3,0,0,0,2,0,0,0,3
390 DATA 0,0,0,0,2,0,0,0,0
400 DATA 0,0,0,0,3,0,0,0,0
410 DATA 0,0,0,3,3,3,0,0,0
420 REM *** PRINT BOARD ***
430 DISPLAY AT(1,9):"A B C D E F G H I"
440 RESTORE 470 :: FOR R=2 TO 19 :: READ A$ :: FOR C=1 TO 18 :: CALL HCHAR(R,C+1
0,ASC(SEG$(A$,C,1))+55):: NEXT C
450 IF INT(R/2)=R/2 THEN CALL HCHAR(R,30,INT(R/2)+48)
460 NEXT R :: RETURN
470 DATA ABABABIJIJIJABABAB,CDCDCDKLKLKLCDCDCD,ABABABABIJABABABAB,CDCDCDCDKLCDCD
CDCD,ABABABABQRABABABAB
480 DATA CDCDCDCDSTCDCDCDCD,IJABABABQRABABABIJ,KLCDCDCDSTCDCDCDKL,IJIJQRQRUVQRQR
IJIJ,KLKLSTSTWXSTSTKLKL
490 DATA IJABABABQRABABABIJ,KLCDCDCDSTCDCDCDKL,ABABABABQRABABABAB,CDCDCDCDSTCDCD
CDCD,ABABABABIJABABABAB,CDCDCDCDKLCDCDCDCD
500 DATA ABABABIJIJIJABABAB,CDCDCDKLKLKLCDCDCD
510 REM ** PLAYER INPUT ***
520 PN=ABS(PN-1)
530 IF PN=1 THEN GOTO 600 ELSE GOSUB 1160
540 DISPLAY AT(5,1)SIZE(4):"RED" :: DISPLAY AT(6,1)SIZE(5):"MOVES" :: DISPLAY AT
(7,1)SIZE(8):"FROM:_"
550 GOSUB 1130 :: CALL HCHAR(7,8,K1):: CALL HCHAR(7,10,95):: GOSUB 1140 :: CALL
HCHAR(7,10,K2):: F2=K1-64 :: F1=K2-48
560 IF PN=0 AND(TB(F1,F2)<>1 AND TB(F1,F2)<>2)THEN GOTO 670
570 DISPLAY AT(8,1)SIZE(8):"TO:  _"
580 GOSUB 1130 :: CALL HCHAR(8,8,K1):: CALL HCHAR(8,10,95):: GOSUB 1140 :: CALL
HCHAR(8,10,K2):: T2=K1-64 :: T1=K2-48
590 GOTO 660
600 GOSUB 1160
610 DISPLAY AT(10,1)SIZE(5):"WHITE" :: DISPLAY AT(11,1)SIZE(5):"MOVES" :: DISPLA
Y AT(12,1)SIZE(8):"FROM:_"
620 GOSUB 1130 :: CALL HCHAR(12,8,K1):: CALL HCHAR(12,10,95):: GOSUB 1140 :: CAL
L HCHAR(12,10,K2):: F2=K1-64 :: F1=K2-48
630 IF PN=1 AND TB(F1,F2)<>3 THEN GOTO 670
640 DISPLAY AT(13,1)SIZE(8):"TO:  _"
650 GOSUB 1130 :: CALL HCHAR(13,8,K1):: CALL HCHAR(13,10,95):: GOSUB 1140 :: CAL
L HCHAR(13,10,K2):: T2=K1-64 :: T1=K2-48
660 IF F1=T1 OR F2=T2 THEN GOTO 690
670 DISPLAY AT(21,3):"ILLEGAL MOVE, TRY AGAIN." :: CALL SOUND(50,110,0,220,0,330
,0)
```

```
100 !***********************
110 !*       TABLUT        *
120 !*                     *
130 !*  TI EXTENDED BASIC  *
140 !*                     *
150 !*                     *
160 !*                     *
170 !***********************
```

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```
680 FOR DELAY=1 TO 260 :: NEXT DELAY :: CALL HCHAR(21,1,32,32):: GOTO 530
690 IF T1<>F1 AND T2<>F2 THEN GOTO 670
700 IF T1=F1 THEN GOTO 740
710 FOR CM=F1+SGN(T1-F1)TO T1 STEP SGN(T1-F1):: IF TB(CM,F2)>0 THEN GOTO 670
720 IF (CM=5 AND F2=5)AND(TB(F1,F2)<>1 OR PN=1)THEN GOTO 670
730 NEXT CM :: GOTO 790
740 IF F2=T2 THEN GOTO 670
750 FOR CM=F2+SGN(T2-F2)TO T2 STEP SGN(T2-F2):: IF TB(F1,CM)>0 THEN GOTO 670
760 IF (CM=5 AND F1=5)AND(TB(F1,F2)<>1 OR PN=1)THEN GOTO 670
770 IF TB(F1,F2)=1 THEN KCT=KC :: KRT=KR :: KC=T1 :: KR=T2 :: GOSUB 1010 :: IF K
ING=2 THEN KING=0 :: KC=KCT :: KR=KRT :: GOTO 670
780 NEXT CM
790 IF TB(F1,F2)=1 THEN KCT=KC :: KRT=KR :: KC=T1 :: KR=T2 :: GOSUB 1010 :: IF K
ING=2 THEN KING=0 :: KC=KCT :: KR=KRT :: GOTO 670
800 RETURN
810 CALL HCHAR(F1*2,F2*2+9,120):: CALL HCHAR(F1*2,F2*2+10,121):: CALL HCHAR(F1*2
+1,F2*2+9,122):: CALL HCHAR(F1*2+1,F2*2+10,123)
820 ZZ=TB(F1,F2):: IF ZZ=1 THEN CH=140 ELSE IF ZZ=2 THEN CH=136 ELSE IF ZZ=3 THE
N CH=128
830 CALL HCHAR(T1*2,T2*2+9,CH):: CALL HCHAR(T1*2,T2*2+10,CH+1):: CALL HCHAR(T1*2
+1,T2*2+9,CH+2):: CALL HCHAR(T1*2+1,T2*2+10,CH+3)
840 IF TB(F1,F2)=1 THEN KC=T1 :: KR=T2
850 TB(T1,T2)=TB(F1,F2):: TB(F1,F2)=0 :: RETURN
860 REM *** CHECK CAPTURES ***
870 IF TB(T1,T2)=1 THEN 980
880 IF PN=1 THEN MP=3 :: CP=2 ELSE MP=2 :: CP=3
890 REM *** WEST ***
900 IF T1>1 THEN IF TB(T1-1,T2)=CP AND TB(T1-2,T2)=MP THEN TB(T1-1,T2)=0 :: X=T1
-1 :: Y=T2 :: GOSUB 1150
910 REM *** EAST ***
920 IF T1<8 THEN IF TB(T1+1,T2)=CP AND TB(T1+2,T2)=MP THEN TB(T1+1,T2)=0 :: X=T1
+1 :: Y=T2 :: GOSUB 1150
930 REM *** NORTH ***
940 IF T2>1 THEN IF TB(T1,T2-1)=CP AND TB(T1,T2-2)=MP THEN TB(T1,T2-1)=0 :: X=T1
 :: Y=T2-1 :: GOSUB 1150
950 REM *** SOUTH ***
960 IF T2<8 THEN IF TB(T1,T2+1)=CP AND TB(T1,T2+2)=MP THEN TB(T1,T2+1)=0 :: X=T1
 :: Y=T2+1 :: GOSUB 1150
970 RETURN
980 IF T1=1 OR T1=9 OR T2=1 OR T2=9 THEN KING=1
990 RETURN
1000 REM *** KING CAPTURED? ***
1010 IF NOT(TB(KC-1,KR)=3 OR KC=6 AND KR=5)THEN RETURN
1020 IF NOT(TB(KC+1,KR)=3 OR KC=4 AND KR=5)THEN RETURN
1030 IF NOT(TB(KC,KR-1)=3 OR KC=5 AND KR=6)THEN RETURN
1040 IF NOT(TB(KC,KR+1)=3 OR KC=5 AND KR=4)THEN RETURN
1050 KING=2 :: RETURN
1060 REM *** WINNING ***
1070 DISPLAY AT(21,1):"THE KING HAS ARRIVED AT THE":"EDGE OF THE BOARD. RED WINS
."
1080 GOSUB 1160 :: FOR Z=1 TO 12 :: CALL SOUND(-10,110*Z,0):: NEXT Z :: GOTO 110
0
1090 DISPLAY AT(21,1):"THE KING HAS BEEN CAPTURED.":"WHITE WINS." :: GOTO 1080
1100 DISPLAY AT(23,1):"ANOTHER GAME? (Y/N)" :: ACCEPT AT(23,24)VALIDATE("YN")SIZ
E(1)BEEP:ANS$
1110 IF ANS$="N" THEN CALL CLEAR :: GOTO 1170
1120 PN=1 :: GAME=99 :: CALL CLEAR :: GOTO 260
1130 CALL KEY(0,K1,S):: IF S<>1 OR K1<64 OR K1>73 THEN GOTO 1130 ELSE CALL SOUND
(10,880,0):: RETURN
1140 CALL KEY(0,K2,S):: IF S<>1 OR K2<49 OR K2>57 THEN GOTO 1140 ELSE CALL SOUND
(10,880,0):: RETURN
1150 CALL HCHAR(X*2,Y*2+9,120):: CALL HCHAR(X*2,Y*2+10,121):: CALL HCHAR(X*2+1,Y
*2+9,122):: CALL HCHAR(X*2+1,Y*2+10,123):: RETURN
1160 FOR X=1 TO 10 :: CALL VCHAR(1,X,32,20):: NEXT X :: RETURN
1170 END
```

```
10 CALL CLEAR
20 PRINT "***************************"::"  ISTRUZIONI PER L'USO DEL   PROGRAMM
A SUCCESSIVO    "::"***************************"
30 FOR I=1 TO 600
40 NEXT I
50 CALL CLEAR
60 PRINT "***************************"::"   CALCOLO MATRICIALE"::"************
***************"::::::
70 PRINT "££  FRANCOMPUTER CLUB  ££ "
80 FOR X=1 TO 1000
90 NEXT X
100 PRINT ::" ISTRUZIONE    FORMATO"::::"  DIMENSIONA____nome(nlm)"
110 PRINT ::"  DEFINISCI_____nome="::
120 PRINT "  VISUALIZZA____nome?"::
130 PRINT "  CANCELLA______nome=o"
131 PRINT ::"           (continua)"
132 FOR G=1 TO 7000
133 NEXT G
140 PRINT :"  PRODOTTO    nome=nome*nome"::
150 PRINT "  SOMMA       nome=nome+nome"
160 PRINT ::"  PRODOTTO                    CON SCALARE__nome=s*nomesc"::
170 PRINT "  INVERSA_____nome=nomei"::
180 PRINT "  TRASPOSTA___nome=nomet"::
190 PRINT "  DETERMINANTE__DET(nome)"
210 PRINT ::"   come nome di matrici    si puo' usare una qualsiasi    letter
a maiuscola"
220 FOR P=1 TO 7000
230 NEXT P
```

```
100 CALL CLEAR
102 CALL CHAR(116,"007C101010")
103 CALL CHAR(111,"0010385454543810")
104 CALL CHAR(105,"000404E404")
106 DIM V(1000),RG(26),CL(26)
107 V(0)=27
110 INPUT OPR$
112 DEF AD(A$)=ASC(A$)-64
120 KA=0
130 GOSUB 10000
135 IF L$="" THEN 110
136 IF L$<>"@" THEN 140
137 PRINT 1010-V(0)
138 GOTO 110
140 GOSUB 11000
150 D$=L$
160 GOSUB 10000
165 IF (D$&L$)="DE" THEN 12000
170 IF L$="=" THEN 500
180 IF L$="(" THEN 1000
185 IF L$="?" THEN 2000
190 PRINT "ERRORE"
191 CALL SOUND(100,300,4)
195 GOTO 110
500 GOSUB 10000
510 IF L$="" THEN 3000
515 IF L$="o" THEN 9500
517 IF L$="s" THEN 13000
520 GOSUB 11000
525 O1$=L$
530 GOSUB 10000
540 IF L$="t" THEN 4000
550 IF L$="i" THEN 5000
560 IF L$="" THEN 9000
580 IF L$="+" THEN 6000
600 IF L$="*" THEN 8000 ELSE 190
1000 L1$=""
1010 GOSUB 10000
1030 IF L$="X" THEN 1040
1031 IF (ASC(L$)>47)*(ASC(L$)<58)THEN 1035 ELSE 190
```

```
1035 L1$=L1$&L$
1036 GOTO 1010
1040 L2$=""
1050 GOSUB 10000
1055 IF L$=")" THEN 1085
1056 IF (ASC(L$)>47)*(ASC(L$)<58)THEN 1060 ELSE 190
1060 L2$=L2$&L$
1065 GOTO 1050
1085 GOSUB 10000
1090 IF L$="" THEN 1100 ELSE 190
1100 A=AD(D$)
1101 IF V(A)=0 THEN 1110
1102 PRINT "MATRICE GIA' DIMENSIONATA"
1103 CALL SOUND(100,300,4)
1104 GOTO 110
1110 V(A)=V(0)
1120 RG(A)=VAL(L1$)
1130 CL(A)=VAL(L2$)
1140 IF V(A)+RG(A)*CL(A)<1000 THEN 1170
1150 PRINT "MEMORIA ESAURITA"
1153 V(A)=0
1155 CALL SOUND(100,300,4)
1160 GOTO 110
1170 V(0)=V(0)+RG(A)*CL(A)
1180 GOTO 110
2000 A=AD(D$)
2010 FOR I=1 TO RG(A)
2020 FOR J=1 TO CL(A)
2030 PRINT D$&"("&STR$(I)&","&STR$(J)&")=";V(V(A)+CL(A)*(I-1)+J-1)
2035 CALL KEY(0,K,S)
2036 IF S=0 THEN 2035
2040 NEXT J
2050 NEXT I
2060 GOTO 110
3000 A=AD(D$)
3010 FOR I=1 TO RG(A)
3015 FOR J=1 TO CL(A)
3020 PRINT D$&"("&STR$(I)&","&STR$(J)&")=";
3030 INPUT " ":V(V(A)+(I-1)*CL(A)+J-1)
3040 NEXT J
3050 NEXT I
3060 GOTO 110
4000 GOSUB 10000
4010 IF L$="" THEN 4020 ELSE 190
4020 A=AD(D$)
4030 B=AD(D1$)
4040 IF V(B)=0 THEN 9500
4050 IF V(A)=0 THEN 4100
4060 IF (CL(A)=RG(B))*(CL(B)=RG(A))THEN 4150 ELSE 9040
4100 CL(A)=RG(B)
4110 RG(A)=CL(B)
4120 V(A)=V(0)
4130 V(0)=V(0)+RG(A)*CL(A)
4150 FOR I=1 TO RG(B)
4160 FOR J=1 TO CL(B)
4170 V(V(0)+(J-1)*CL(A)+I-1)=V(V(B)+(I-1)*CL(B)+J-1)
4180 NEXT J
4190 NEXT I
4200 FOR I=0 TO RG(A)*CL(A)-1
4210 V(V(A)+I)=V(V(0)+I)
4220 NEXT I
4230 GOTO 110
5000 GOSUB 10000
5010 IF L$="" THEN 5020 ELSE 190
5020 A=AD(D$)
5030 B=AD(D1$)
5040 IF RG(B)=CL(B)THEN 5080
5050 PRINT "MATRICE NON QUADRATA"
5060 CALL SOUND(100,300,4)
5070 GOTO 110
5080 IF V(A)=0 THEN 5100
5090 IF (RG(A)=RG(B))*(CL(A)=CL(B))THEN 5140 ELSE 9040
5100 V(A)=V(0)
5110 RG(A)=RG(B)
5120 CL(A)=CL(B)
5130 V(0)=V(0)+RG(A)^2
5140 INV=1
5150 FOR I=0 TO RG(B)^2-1
5160 V(V(0)+I)=V(V(B)+I)
5170 NEXT I
5180 FOR I=0 TO RG(A)-1
5190 FOR J=0 TO CL(A)-1
5200 V(V(A)+I*CL(A)+J)=1-SGN(ABS(I-J))
5210 NEXT J
5220 NEXT I
5300 REM  *INV-DET*
5310 N=CL(B)
5313 SG=1
5316 DET=1
5320 FOR K=0 TO N-1
5326 P=K
5330 IF V(V(0)+K*N+K)<>0 THEN 5500
5340 P=P+1
5350 IF P>N-1 THEN 5900
5360 IF V(V(0)+P*N+K)=0 THEN 5340
5370 SG=-SG
5380 FOR I=0 TO N-1
5390 VP=V(V(0)+P*N+I)
5400 V(V(0)+P*N+I)=V(V(0)+K*N+I)
5410 V(V(0)+K*N+I)=VP
5420 NEXT I
5430 IF INV=0 THEN 5500
5435 FOR I=0 TO N-1
5440 VP=V(V(A)+P*N+I)
5445 V(V(A)+P*N+I)=V(V(A)+K*N+I)
5450 V(V(A)+K*N+I)=VP
5455 NEXT I
5500 DET=DET*V(V(0)+K*N+K)
5600 IF INV=0 THEN 5638
5620 FOR J=N-1 TO 0 STEP -1
5630 V(V(A)+K*N+J)=V(V(A)+K*N+J)/V(V(0)+K*N+K)
5635 NEXT J
5638 FOR J=N-1 TO 0 STEP -1
5640 V(V(0)+K*N+J)=V(V(0)+K*N+J)/V(V(0)+K*N+K)
5645 NEXT J
5650 FOR I=0 TO N-1
5660 IF I=K THEN 5710
5665 IF INV=0 THEN 5692
5680 FOR J=N-1 TO 0 STEP -1
5690 V(V(A)+I*N+J)=V(V(A)+I*N+J)-V(V(0)+I*N+K)*V(V(A)+K*N+J)
5691 NEXT J
5692 FOR J=N-1 TO K STEP -1
5700 V(V(0)+I*N+J)=V(V(0)+I*N+J)-V(V(0)+I*N+K)*V(V(0)+K*N+J)
5705 NEXT J
5710 NEXT I
```

```
5715 NEXT K
5720 PRINT "DET("&CHR$(B+64)&")=";DET*SG
5730 GOTO 110
5900 PRINT "MATRICE NON INVERTIBILE":"DET("&CHR$(64+B)&")=0"
5910 GOTO 110
6000 GOSUB 10000
6010 GOSUB 11000
6020 O2$=L$
6030 GOSUB 10000
6040 IF L$="" THEN 6050 ELSE 190
6050 A=AD(D$)
6060 B=AD(O1$)
6070 C=AD(O2$)
6080 IF (RG(B)=RG(C))*(CL(B)=CL(C))THEN 6090 ELSE 9040
6090 IF V(A)=0 THEN 6200
6100 IF (RG(A)=RG(B))*(CL(A)=CL(B))THEN 6250 ELSE 9040
6200 V(A)=V(0)
6210 RG(A)=RG(B)
6220 CL(A)=CL(B)
6230 V(0)=V(0)+RG(A)*CL(A)
6250 FOR I=0 TO CL(A)*RG(A)-1
6270 V(V(A)+I)=V(V(B)+I)+V(V(C)+I)
6290 NEXT I
6300 GOTO 110
8000 GOSUB 10000
8010 GOSUB 11000
8020 O2$=L$
8030 GOSUB 10000
8040 IF L$="" THEN 8050 ELSE 190
8050 A=AD(D$)
8060 B=AD(O1$)
8070 C=AD(O2$)
8080 IF CL(B)<>RG(C)THEN 9040
8090 IF V(A)=0 THEN 8200
8100 IF (RG(A)=RG(B))*(CL(A)=CL(C))THEN 8240 ELSE 9040
8200 V(A)=V(0)
8210 RG(A)=RG(B)
8220 CL(A)=CL(C)
8230 V(0)=V(0)+RG(A)*CL(A)
8240 FOR I=1 TO RG(B)
8250 FOR J=1 TO CL(C)
8255 EL=0
8260 FOR K=1 TO CL(B)
8270 EL=EL+V(V(B)+(I-1)*CL(B)+K-1)*V(V(C)+(K-1)*CL(C)+J-1)
8280 NEXT K
8290 V(V(0)+(I-1)*CL(A)+J-1)=EL
8300 NEXT J
8310 NEXT I
8320 IF V(0)=V(A)THEN 110
8330 FOR I=0 TO RG(A)*CL(A)-1
8340 V(V(A)+I)=V(V(0)+I)
8350 NEXT I
8360 GOTO 110
9000 A=AD(D$)
9010 B=AD(O1$)
9015 IF V(B)=0 THEN 9500
9020 IF V(A)=0 THEN 9060
9030 IF (RG(A)=RG(B))*(CL(A)=CL(B))THEN 9100
9040 PRINT "DIMENSIONI INCOMPATIBILI"
9045 CALL SOUND(100,300,4)
9050 GOTO 110
9060 RG(A)=RG(B)
9070 CL(A)=CL(B)
9080 V(A)=V(0)
9090 V(0)=V(0)+RG(A)*CL(A)
9100 FOR I=0 TO RG(A)*CL(A)-1
9110 V(V(A)+I)=V(V(B)+I)
9120 NEXT I
9130 GOTO 110
9500 A=AD(D$)
9510 B=RG(A)*CL(A)
9520 FOR I=A+1 TO 26
9525 IF V(I)=0 THEN 9540
9530 V(I)=V(I)-B
9540 NEXT I
9550 FOR I=V(A)TO V(0)-B
9560 V(I)=V(I+B)
9570 NEXT I
9580 V(0)=V(0)-B
9590 V(A)=0
9591 RG(A)=0
9592 CL(A)=0
9600 GOTO 110
10000 KA=KA+1
10010 L$=SEG$(OPR$,KA,1)
10020 RETURN
11000 IF (ASC(L$)>64)*(ASC(L$)<91)THEN 11020
11010 PRINT "NOME INESATTO"
11011 CALL SOUND(100,300,4)
11015 GOTO 110
11020 RETURN
12000 GOSUB 10000
12010 IF L$<>"T" THEN 190
12020 GOSUB 10000
12030 IF L$<>"(" THEN 190
12040 GOSUB 10000
12050 GOSUB 11000
12060 B=AD(L$)
12070 GOSUB 10000
12080 IF L$<>")" THEN 190
12090 GOSUB 10000
12100 IF L$<>"" THEN 190
12120 INV=0
12130 IF RG(B)<>CL(B)THEN 5050
12140 FOR I=0 TO RG(B)^2-1
12150 V(V(0)+I)=V(V(B)+I)
12160 NEXT I
12170 GOTO 5300
13000 GOSUB 10000
13010 IF L$<>"*" THEN 190
13020 GOSUB 10000
13030 GOSUB 11000
13040 O1$=L$
13050 GOSUB 10000
13060 IF L$<>"" THEN 190
13080 A=AD(D$)
13090 B=AD(O1$)
13100 IF V(A)=0 THEN 13204
13110 IF (RG(A)=RG(B))*(CL(A)=CL(B))THEN 13235 ELSE 9040
13205 V(A)=V(0)
13210 RG(A)=RG(B)
13220 CL(A)=CL(B)
13230 V(0)=V(0)+RG(A)*CL(A)
13235 INPUT "s=":SC
13240 FOR I=0 TO RG(A)*CL(A)-1
13250 V(V(A)+I)=V(V(B)+I)*SC
13260 NEXT I
13270 GOTO 110
```

BASIC

```
100 REM   ============================
101 REM
102 REM       GRAFICA  DA  TASTIERA
103 REM
104 REM   ============================
105 REM      87 CARATTERI  4  PAGINE
106 REM
107 REM   ============================
108 REM
109 REM     FRANCOMPUTER CLUB VICENZA
110 REM
120 CALL CHAR(129,"FFFFFFFFFFFFFFFF")
130 CALL CHAR(130,"FF818181818181FF")
140 CALL CHAR(131,"FF00")
150 CALL CHAR(132,"00000000000000FF")
160 CALL CHAR(133,"8080808080808080")
170 CALL CHAR(134,"0101010101010101")
180 CALL CHAR(135,"8181818181818181")
190 CALL CHAR(136,"FF000000000000FF")
200 CALL CHAR(137,"9090909090909090")
210 CALL CHAR(152,"181818FFFF181818")
220 CALL CHAR(139,"F0F0F0F0F0F0F0F0")
230 CALL CHAR(140,"0F0F0F0F0F0F0F0F")
240 CALL CHAR(141,"FFFFFFFF00")
250 CALL CHAR(142,"00000000FFFFFFFF")
260 CALL CHAR(143,"000000FFFF")
270 CALL CHAR(144,"1818181818181818")
280 CALL CHAR(145,"8142241818244281")
290 CALL CHAR(146,"0102040810204080")
300 CALL CHAR(147,"8040201008040201")
310 CALL CHAR(148,"80808080808080FF")
320 CALL CHAR(149,"FF01010101010101")
330 CALL CHAR(150,"FF80808080808080")
340 CALL CHAR(151,"01010101010101FF")
350 CALL CHAR(138,"0909090909090909")
360 CALL CHAR(153,"FF0000FF00")
370 CALL CHAR(154,"00000000FF0000FF")
380 CALL CHAR(155,"80C0E0F0F8FCFEFF")
390 CALL CHAR(157,"0103070F1F3F7FFF")
400 CALL CHAR(156,"FFFEFCF8F0E0C080")
410 CALL CHAR(158,"FF7F3F1F0F070301")
420 CALL CHAR(159,"3333CCCC3333CCCC")
430 CALL CHAR(33,"FFC381818181C3FF")
440 CALL CHAR(35,"FFFFC3C3C3C3FFFF")
450 CALL CHAR(64,"3C7EFFFFFFFF7E3C")
460 CALL CHAR(37,"F0F0F0F0")
470 CALL CHAR(94,"0F0F0F0F")
480 CALL CHAR(38,"00000000F0F0F0F0")
490 CALL CHAR(42,"000000000F0F0F0F")
500 CALL CHAR(45,"F0F0F0F00F0F0F0F")
510 CALL CHAR(58,"0F0F0F0FF0F0F0F0")
520 CALL CHAR(60,"00FF00FF00FF00FF")
530 CALL CHAR(62,"AAAAAAAAAAAAAAAA")
540 CALL CHAR(47,"000000000F080808")
550 CALL CHAR(59,"0808080F")
560 CALL CHAR(36,"101010F0")
570 CALL CHAR(46,"00000000F0101010")
580 CALL CHAR(43,"FF82848890A0C080")
590 CALL CHAR(40,"01030509112141FF")
600 CALL CHAR(41,"80C0A090888482FF")
610 CALL CHAR(61,"FF41211109050301")
620 CALL CHAR(126,"FF818181818181181")
630 CALL CHAR(91,"FF808080808080FF")
640 CALL CHAR(93,"FF010101010101FF")
650 CALL CHAR(95,"8181818181818181FF")
660 CALL CHAR(63,"030C302040408080")
670 CALL CHAR(39,"8080404020300C03")
680 CALL CHAR(123,"C0300C0402020101")
690 CALL CHAR(125,"01010202040C30C0")
700 CALL CHAR(124,"C3C300000000C3C3")
710 CALL CHAR(92,"FF9999FFFF9999FF")
720 CALL CHAR(96,"2424FF2424FF2424")
730 CALL CHAR(97,"FF83858991A1C1FF")
740 CALL CHAR(98,"FFC1A191898583FF")
750 CALL CHAR(99,"FFC3A59999A5C3FF")
760 CALL CHAR(100,"1818242442428181")
770 CALL CHAR(101,"8181424224241818")
780 CALL CHAR(102,"C0300C03030C30C0")
790 CALL CHAR(103,"030C30C0C0300C03")
800 CALL CHAR(104,"FF81BDA5A5BD81FF")
810 CALL CHAR(105,"2424242424242424")
820 CALL CHAR(106,"0000FF0000FF0000")
830 CALL CHAR(107,"FFFFFFFFF0F0F0F0")
840 CALL CHAR(108,"F0F0F0F0FFFFFFFF")
850 CALL CHAR(109,"FFE1E1E1E1E1E1FF")
860 CALL CHAR(110,"FF8787878787787FF")
870 CALL CHAR(111,"FFFFFFFF818181FF")
880 CALL CHAR(112,"FF818181FFFFFFFF")
890 CALL CHAR(113,"0F0F0F0FFFFFFFFF")
900 CALL CHAR(114,"FFFFFFFF0F0F0F0F")
910 CALL CHAR(115,"FFFFFFFF18181818")
920 CALL CHAR(116,"18181818FFFFFFFF")
930 CALL CHAR(117,"F0F0F0FFFFF0F0F0")
940 CALL CHAR(118,"0F0F0FFFFF0F0F0F")
950 CALL CHAR(119,"818181FF")
960 CALL CHAR(120,"00000000FF818181")
970 CALL CHAR(121,"F0101010101010F0")
980 CALL CHAR(122,"0F0808080808080F")
990 CALL CLEAR
```

```
1000 PRINT "\  GRAFICA DIRETTA DA"::"\  TASTIERA"::::"MENU  ":::"1  SIMBOLI GAR
FICI E ISTRUZ&"::"2  ESECUZIONE"
1010 PRINT ::"3  IN MEMORIA SUL REG&"::"4  RICHIAMO DAL REG&"::"5  DISPLAY GRAFI
CO"::"6  CORREZIONE GRAFICO"::
1020 CALL KEY(0,K,S)
1030 IF S=0 THEN 1020
1040 IF (K<49)+(K>54)THEN 1020
1050 ON (K-48)GOTO 1060,1430,1900,2020,1820,2190
1060 CALL CLEAR
1070 PRINT "\ HAI 87 SIMBOLI GRAFICI CHE":"\ PUOI RICAVARE DIRETTAMENTE":"\ DALL
A TASTIERA ":"\"
1080 PRINT "\ 11 CON FCTN E 41 CON SHIFT":"\ 31 CON CTRL E 4 NORMALI":"\ PIU I N
UMERI E 26 LETTERE":"\ MAIUSCOLE"
1090 PRINT :::"! NON ACCETTA LA VIRGOLA !"::::"PREMI UN TASTO"
1100 CALL KEY(0,K,S)
1110 IF S=0 THEN 1100
1120 PRINT :::"\CON CTRL\  PREMI UN TASTO"
1130 FOR X=1 TO 9
1140 PRINT :CHR$(64+X);" ";CHR$(128+X);"   ";CHR$(73+X);" ";CHR$(137+X);"   ";CH
R$(82+X);" ";CHR$(146+X)
1150 NEXT X
1160 CALL HCHAR(23,15,127,4)
1170 PRINT :"DUE PUNTI ";CHR$(156);"  UGUALE ";CHR$(157)::"8 ";CHR$(158);"   9 "
;CHR$(159);"  PUNTO ";CHR$(155)
1180 CALL KEY(0,K,S)
1190 IF S=0 THEN 1180
1200 PRINT :::"\CON SHIFT\"
1210 PRINT :"! PUNTO ESCL&","@ SEGNO AT"::"% PER CENTO","^ ELEVATO"::"& E COMM&"
,"* PER"::"- MENO",": DUE PUNTI"
1220 PRINT ::"< MINORE","> MAGGIORE"::") PARENT& CH&","$ DOLLARO"::"+ PIU","( PA
REN& AP&"::"£ ' LIBBRA"::
1230 PRINT "PREMI UN TASTO"
1240 CALL KEY(0,K,S)
1250 IF S=0 THEN 1240
1260 PRINT ::"\ SHIFT MINUSCOLE \"
1270 FOR X=1 TO 9
1280 PRINT :CHR$(64+X);" ";CHR$(96+X);"   ";CHR$(73+X);" ";CHR$(105+X);"   ";CHR
$(82+X);" ";CHR$(114+X)
1290 NEXT X
1300 CALL HCHAR(23,15,127,5)
1310 PRINT :"PREMI UN TASTO"
1320 CALL KEY(0,K,S)
1330 IF S=0 THEN 1320
1340 PRINT :::"\CON FCTN\"::"~ TILDE","[ PAR&QU&AP&"::"] PAR&QU&CH&","_ TRATTO":
:"? PUNTO DOM&",
1350 PRINT "' APOSTROFO"::"| SEPARATORE","{ PAR&GRA&AP&"::"} PAR&GRA&CH&","\ BAR
RA OBL&"::"` ACCENTO"
1360 PRINT ::::"PREMI UN TASTO"
1370 CALL KEY(0,K,S)
1380 IF S=0 THEN 1370
1390 PRINT ::::"\TASTI NORMALI\"::::"= UGUALE"::"/ DIVISO"::"; PUNTO VIRG&"::".
PUNTO "::::"PREMI UN TASTO"
1400 CALL KEY(0,K,S)
1410 IF S=0 THEN 1400
1420 GOTO 990
1430 CALL CLEAR
1440 PRINT "PRIMO TASTO PER COMINCIARE":"E PER ESEMPIO PUO ESSERE 1":"POI PUOI I
NIZIARE GRAFICA"::
1450 PRINT "NEL MODO CORREZIONE":"PER CANCELLARE O PER FARE":"UNO SPAZIO LIBERO
DEVI":"SPINGERE FCTNDEL"::
1460 PRINT :"PER USCIRE DAL MODO CORRE":"ZIONE, CURSORE TUTTO A":"SINISTRA"::"A
TTENZIONE PER OGNI NUM&"
1470 PRINT "HAI A DISPOSIZIONE 1 RIGA ":"CON 26 CASELLE PER 23 RIGHE"::"MASSIMO
4 PAGINE"::
1480 PRINT "MODO CORREZIONE 28 CASELLE"::
```

```
1490 IF Y$<>"" THEN 1510
1500 INPUT "NOME GRAFICO  ":Y$
1510 PRINT :"NOME ";Y$::"NUMERO PAGINA"::
1520 INPUT "\ ":Z
1530 IF Z>4 THEN 1510
1540 PRINT ::"1234567890123456789012345 6":: 
1550 INPUT "1":A$(Z)
1560 INPUT "1":B$(Z)
1570 INPUT "1":C$(Z)
1580 INPUT "1":D$(Z)
1590 INPUT "1":E$(Z)
1600 INPUT "1":F$(Z)
1610 INPUT "1":G$(Z)
1620 INPUT "1":H$(Z)
1630 INPUT "1":I$(Z)
1640 INPUT "1":J$(Z)
1650 INPUT "1":K$(Z)
1660 INPUT "1":L$(Z)
1670 INPUT "1":M$(Z)
1680 INPUT "1":N$(Z)
1690 INPUT "1":O$(Z)
1700 INPUT "1":P$(Z)
1710 INPUT "1":Q$(Z)
1720 INPUT "1":R$(Z)
1730 INPUT "1":S$(Z)
1740 INPUT "1":T$(Z)
1750 INPUT "1":U$(Z)
1760 INPUT "1":V$(Z)
1770 INPUT "1":W$(Z)
1780 PRINT "FINE GRAFICO PREMI UN TASTO"
1790 CALL KEY(0,K,S)
1800 IF S=0 THEN 1790
1810 GOTO 990
1820 CALL CLEAR
1830 INPUT "NUMERO PAGINA ":Z
1840 IF Z>4 THEN 1830
1850 PRINT ::"DOPO PREMI UN TASTO"::Y$::A$(Z):B$(Z):C$(Z):D$(Z):E$(Z):F$(Z):G$(Z
):H$(Z):I$(Z):J$(Z):K$(Z):L$(Z)
1860 PRINT M$(Z):N$(Z):O$(Z):P$(Z):Q$(Z):R$(Z):S$(Z):T$(Z):U$(Z):V$(Z):W$(Z)
1870 CALL KEY(0,K,S)
1880 IF S=0 THEN 1870
1890 GOTO 990
1900 CALL CLEAR
1910 OPEN £1:"CS1",INTERNAL,OUTPUT,FIXED 192
1920 PRINT ::" NOME GRAFICO ";Y$::
1930 PRINT £1:Y$,Z
1940 FOR X=1 TO Z
1950 PRINT £1:A$(X),B$(X),C$(X),D$(X),E$(X),F$(X)
1960 PRINT £1:G$(X),H$(X),I$(X),J$(X),K$(X),L$(X)
1970 PRINT £1:M$(X),N$(X),O$(X),P$(X),Q$(X),R$(X)
1980 PRINT £1:S$(X),T$(X),U$(X),V$(X),W$(X)
1990 NEXT X
2000 CLOSE £1
2010 GOTO 990
2020 CALL CLEAR
2030 OPEN £1:"CS1",INTERNAL,INPUT ,FIXED 192
2040 INPUT £1:Y$,Z
2050 PRINT ::"NOME GRAFICO ";Y$::
2060 FOR X=1 TO Z
2070 INPUT £1:A$(X),B$(X),C$(X),D$(X),E$(X),F$(X)
2080 INPUT £1:G$(X),H$(X),I$(X),J$(X),K$(X),L$(X)
2090 INPUT £1:M$(X),N$(X),O$(X),P$(X),Q$(X),R$(X)
2100 INPUT £1:S$(X),T$(X),U$(X),V$(X),W$(X)
2110 NEXT X
2120 CLOSE £1
2130 CALL CLEAR
2140 PRINT "VA BENE IL VECCHIO NOME SN"::Y$::
2150 INPUT "\ ":Z$
2160 IF Z$="S" THEN 2180
2170 INPUT "NUOVO NOME ":Y$
2180 GOTO 990
2190 REM  **CORREZIONE **
2200 CALL CLEAR
2210 INPUT "QUALE PAGINA   ":Z
2220 PRINT ::Y$::A$(Z):B$(Z):C$(Z):D$(Z):E$(Z):F$(Z):G$(Z):H$(Z):I$(Z):J$(Z):K$(
Z):L$(Z):M$(Z):N$(Z):O$(Z):P$(Z)
2230 PRINT Q$(Z):R$(Z):S$(Z):T$(Z):U$(Z):V$(Z):W$(Z)
2240 X=0
2250 CALL CHAR(128,"FF818181818181FF")
2260 COL=2
2270 RIG=1
2280 CALL HCHAR(RIG,COL,128)
2290 CALL KEY(0,K,S)
2300 IF S=0 THEN 2290
2310 IF (K<>68)*(K<>69)*(K<>83)*(K<>88)THEN 2380 ELSE 2320
2320 CALL HCHAR(RIG,COL,X)
2330 COL=COL-(K=83)*(COL>1)+(K=68)*(COL<30)
2340 RIG=RIG-(K=69)*(RIG>1)+(K=88)*(RIG<23)
2350 IF COL=1 THEN 990
2360 CALL GCHAR(RIG,COL,X)
2370 GOTO 2280
2380 CALL HCHAR(RIG,COL,127)
2390 IF COL=2 THEN 2250
2400 CALL KEY(0,KEY,S)
2410 IF S=0 THEN 2400
```

```
2420 CALL HCHAR(RIG,COL,KEY)
2430 CALL GCHAR(RIG,COL,X)
2440 IF RIG>18 THEN 2470 ELSE 2450
2450 ON RIG GOSUB 2490,2530,2570,2610,2650,2690,2730,2770,2810,2850,2890,2930,29
70,3010,3050,3090,3130,3170
2460 GOTO 2280
2470 ON RIG-18 GOSUB 3210,3250,3290,3330,3370
2480 GOTO 2280
2490 AD$=SEG$(A$(Z),COL-1,LEN(A$(Z)))
2500 AS$=SEG$(A$(Z),1,COL-3)
2510 A$(Z)=AS$&CHR$(X)&AD$
2520 RETURN
2530 BS$=SEG$(B$(Z),1,COL-3)
2540 BD$=SEG$(B$(Z),COL-1,LEN(B$(Z)))
2550 B$(Z)=BS$&CHR$(X)&BD$
2560 RETURN
2570 CS$=SEG$(C$(Z),1,COL-3)
2580 CD$=SEG$(C$(Z),COL-1,LEN(C$(Z)))
2590 C$(Z)=CS$&CHR$(X)&CD$
2600 RETURN
2610 DS$=SEG$(D$(Z),1,COL-3)
2620 DD$=SEG$(D$(Z),COL-1,LEN(D$(Z)))
2630 D$(Z)=DS$&CHR$(X)&DD$
2640 RETURN
2650 ES$=SEG$(E$(Z),1,COL-3)
2660 ED$=SEG$(E$(Z),COL-1,LEN(E$(Z)))
2670 E$(Z)=ES$&CHR$(X)&ED$
2680 RETURN
2690 FS$=SEG$(F$(Z),1,COL-3)
2700 FD$=SEG$(F$(Z),COL-1,LEN(F$(Z)))
2710 F$(Z)=FS$&CHR$(X)&FD$
2720 RETURN
2730 GS$=SEG$(G$(Z),1,COL-3)
2740 GD$=SEG$(G$(Z),COL-1,LEN(G$(Z)))
2750 G$(Z)=GS$&CHR$(X)&GD$
2760 RETURN
2770 HS$=SEG$(H$(Z),1,COL-3)
2780 HD$=SEG$(H$(Z),COL-1,LEN(H$(Z)))
2790 H$(Z)=HS$&CHR$(X)&HD$
2800 RETURN
2810 IS$=SEG$(I$(Z),1,COL-3)
2820 ID$=SEG$(I$(Z),COL-1,LEN(I$(Z)))
2830 I$(Z)=IS$&CHR$(X)&ID$
2840 RETURN
2850 JS$=SEG$(J$(Z),1,COL-3)
2860 JD$=SEG$(J$(Z),COL-1,LEN(J$(Z)))
2870 J$(Z)=JS$&CHR$(X)&JD$
2880 RETURN
2890 KS$=SEG$(K$(Z),1,COL-3)
2900 KD$=SEG$(K$(Z),COL-1,LEN(K$(Z)))
2910 K$(Z)=KS$&CHR$(X)&KD$
2920 RETURN
2930 LS$=SEG$(L$(Z),1,COL-3)
2940 LD$=SEG$(L$(Z),COL-1,LEN(L$(Z)))
2950 L$(Z)=LS$&CHR$(X)&LD$
2960 RETURN
2970 MS$=SEG$(M$(Z),1,COL-3)
2980 MD$=SEG$(M$(Z),COL-1,LEN(M$(Z)))
2990 M$(Z)=MS$&CHR$(X)&MD$
3000 RETURN
3010 NS$=SEG$(N$(Z),1,COL-3)
3020 ND$=SEG$(N$(Z),COL-1,LEN(N$(Z)))
3030 N$(Z)=NS$&CHR$(X)&ND$
3040 RETURN
3050 OS$=SEG$(O$(Z),1,COL-3)
3060 OD$=SEG$(O$(Z),COL-1,LEN(O$(Z)))
3070 O$(Z)=OS$&CHR$(X)&OD$
3080 RETURN
3090 PS$=SEG$(P$(Z),1,COL-3)
3100 PD$=SEG$(P$(Z),COL-1,LEN(P$(Z)))
3110 P$(Z)=PS$&CHR$(X)&PD$
3120 RETURN
3130 QS$=SEG$(Q$(Z),1,COL-3)
3140 QD$=SEG$(Q$(Z),COL-1,LEN(Q$(Z)))
3150 Q$(Z)=QS$&CHR$(X)&QD$
3160 RETURN
3170 RS$=SEG$(R$(Z),1,COL-3)
3180 RD$=SEG$(R$(Z),COL-1,LEN(R$(Z)))
3190 R$(Z)=RS$&CHR$(X)&RD$
3200 RETURN
3210 SS$=SEG$(S$(Z),1,COL-3)
3220 SD$=SEG$(S$(Z),COL-1,LEN(S$(Z)))
3230 S$(Z)=SS$&CHR$(X)&SD$
3240 RETURN
3250 TS$=SEG$(T$(Z),1,COL-3)
3260 TD$=SEG$(T$(Z),COL-1,LEN(T$(Z)))
3270 T$(Z)=TS$&CHR$(X)&TD$
3280 RETURN
3290 US$=SEG$(U$(Z),1,COL-3)
3300 UD$=SEG$(U$(Z),COL-1,LEN(U$(Z)))
3310 U$(Z)=US$&CHR$(X)&UD$
3320 RETURN
3330 VS$=SEG$(V$(Z),1,COL-3)
3340 VD$=SEG$(V$(Z),COL-1,LEN(V$(Z)))
3350 V$(Z)=VS$&CHR$(X)&VD$
3360 RETURN
3370 WS$=SEG$(W$(Z),1,COL-3)
3380 WD$=SEG$(W$(Z),COL-1,LEN(W$(Z)))
3390 W$(Z)=WS$&CHR$(X)&WD$
3400 RETURN
3410 REM  ££ BUON LAVORO ££
```

```
100 CALL CLEAR
110 CALL SCREEN(12)
120 REM  ******************
130 REM   *   SEGRETERIA    *
140 REM   *   ELETTRONICA   *
150 REM  *                 *
160 REM  *    TI  BASIC    *
170 REM  *                 *
180 REM   *                 *
190 REM  ******************
200 OPTION BASE 1
210 DIM A$(5,60),O$(5),C$(6),P1(3),P2(3)
220 READ P1(1),P1(2),P1(3),P2(1),P2(2),P2(3)
230 LSIZE=0
240 OPT=1
250 CALL CLEAR
260 CALL SCREEN(12)
270 PRINT "  ************************":"  ** THE HOME SECRETARY **":"  *********
***************"::::::::
280 PRINT TAB(8);"1. RUBRICA   "::TAB(8);"2. INVENTARIO"
290 GOSUB 2750
300 IF KEY=49 THEN 370
310 IF KEY=50 THEN 340
320 PRINT "RE-ENTER 1 OR 2"
330 GOTO 290
340 OPT=2
350 RESTORE 3890
360 GOTO 380
370 RESTORE 3880
380 GOSUB 3850
390 N=0
400 GOTO 750
410 REM  KEY INPUT FOR DATA SET UP
420 PRINT :"  ENTER":"       E TO EXIT":"       R TO REENTER"
430 FLAG1=1
440 FLAG2=1
450 I=N+1
460 IF I<=60 THEN 500
470 PRINT ::"  *** ARRAY FULL (N=60)***"::
480 GOSUB 2730
490 RETURN
500 PRINT
510 INPUT C$(1):A$(1,I)
520 IF (A$(1,I)="E")+(A$(1,I)="END")THEN 2450
530 IF A$(1,I)="" THEN 510
540 IF A$(1,I)<>"R" THEN 590
550 I=I-1
560 N=I-1
570 PRINT :"  *** REENTER LAST SET ***"
580 GOTO 500
590 FOR Z=2 TO 5
600 INPUT C$(Z):A$(Z,I)
610 NEXT Z
620 GOSUB 670
630 IF T>190 THEN 570
640 GOSUB 700
650 N=I
660 GOTO 450
670 REM  MEMORY CHECK
680 T=LEN(A$(1,I)&A$(2,1)&A$(3,I)&A$(4,I)&A$(5,I))
690 RETURN
700 LSIZE=LSIZE+T
710 IF LSIZE<3300 THEN 740
720 CALL SOUND(200,800,4)
730 PRINT :"** WARNING ** MEMORY GETTING  FULL":" (LSIZE=
740 RETURN                                  ";STR$(LSIZE)&"/3800)":
750 SC=4
760 GOSUB 2690
770 PRINT "    ** HOME SECRETARY **"
780 IF OPT=2 THEN 810
790 PRINT TAB(10);"PHONE BOOK"::
800 GOTO 820
810 PRINT TAB(10):"INVENTORY"::
820 PRINT "*****************************PRESS"::"  1. ADD DATA"::"  2. CHANGE DAT
A":"  3. DISPLAY NAME LIST"::
830 PRINT "  4. DISPLAY ONE ENTRY"::"  5. USE THE DATA"::"  6. SAVE DATA FILE"::
"  7. LOAD DATA FILE"::
840 PRINT "  8. LIST TO PRINTER"::"  9. END PROGRAM"
850 IF FLAG1=0 THEN 860
860 GOSUB 2750
870 IF KEY<49 THEN 750
```

```
880 IF KEY>57 THEN 750
890 GOSUB 2690
900 ON (KEY-48)GOSUB 920,940,1310,1420,2780,2170,1770,3560,3780
910 GOTO 750
920 GOSUB 410
930 RETURN
940 REM  DATA ALTERATION
950 INPUT "WHICH ONE? ":M$
960 IF M$="" THEN 1290
970 PRINT ::"ENTER"::"  NEW DATA AT CURSOR"::"  /D/ TO DELETE THE ITEM"::"  'ENT
ER' FOR NO CHANGES":
980 GOSUB 1660
990 PRINT ::
1000 FLAG1=1
1010 I=M
1020 GOSUB 670
1030 T=-T
1040 GOSUB 700
1050 INPUT A$(1,M)&"?  ":P$
1060 IF P$="" THEN 1160
1070 IF P$<>"/D/" THEN 1140
1080 FOR Z=1 TO 5
1090 A$(Z,M)="__"
1100 NEXT Z
1110 GOSUB 2450
1120 N=N-1
1130 RETURN
1140 A$(1,M)=P$
1150 FLAG2=1
1160 FOR Z=2 TO 5
1170 INPUT A$(Z,M)&" ":P$
1180 IF P$="" THEN 1210
1190 A$(Z,M)=P$
1200 FLAG2=FLAG2+1
1210 NEXT Z
1220 GOSUB 670
1230 IF T<192 THEN 1260
1240 PRINT :"** REENTER LAST SET **"
1250 GOSUB 1050
1260 GOSUB 700
1270 GOSUB 1510
1280 ON T GOTO 1050,950,1290
1290 RETURN
1300 REM  DISPLAY ENTIRE DIRECTORY
1310 IF FLAG2=0 THEN 1330
1320 GOSUB 2450
1330 FOR I=1 TO N
1340 M=28-LEN(A$(2,I))
1350 T$=STR$(I)&"."
1360 PRINT TAB(4-LEN(T$));T$;A$(1,I);TAB(M);A$(2,I)
1370 IF INT(I/10)<>I/10 THEN 1390
1380 GOSUB 2730
1390 NEXT I
1400 GOSUB 2730
1410 RETURN
1420 REM  SINGLE ITEM LISTING
1430 INPUT "WHICH ONE?  ":M$
1440 IF M$="" THEN 1500
1450 GOSUB 1660
1460 GOSUB 2690
1470 PRINT A$(1,M)::A$(2,M)::A$(3,M)::A$(4,M)::A$(5,M)::
1480 GOSUB 1510
1490 ON T GOTO 1460,1430,1500
1500 RETURN
1510 PRINT :"PRESS"::"  E FOR PREVIOUS RECORD"::"  X FOR NEXT RECORD"::"  F TO F
IND ANOTHER RECORD"
1520 GOSUB 2730
1530 T=3
1540 IF KEY<>69 THEN 1580
1550 T=1
1560 IF M=1 THEN 1640
1570 M=M-1
1580 IF KEY<>88 THEN 1620
1590 T=1
1600 IF M=N THEN 1640
1610 M=M+1
1620 IF KEY<>70 THEN 1640
1630 T=2
1640 RETURN
1650 REM  SEARCH ROUTINE FOR SINGLE ITEM LISTING
1660 IF ABS(ASC(M$)-53)>4 THEN 1710
1670 M=VAL(M$)
1680 IF M<=N THEN 1700
1690 M=N
1700 RETURN
1710 FOR I=1 TO M
1720 M=I
1730 IF LEN(M$)>LEN(A$(1,I))THEN 1750
1740 IF M$=SEG$(A$(1,I),1,LEN(M$))THEN 1760
1750 NEXT I
1760 RETURN
1770 REM  LOAD DATA
1780 PRINT "ENTER"::"1. CS1"::"2. DISK1"::"3. OTHER"
1790 INPUT DEV
1800 IF DEV<>1 THEN 1830
1810 S$="CS1"
1820 GOTO 1880
1830 IF DEV<>2 THEN 1870
1840 INPUT "ENTER FILE NAME: DSK1.":F$
1850 S$="DSK1."&F$
1860 GOTO 1880
1870 INPUT "ENTER DEVICE NAME:":S$
1880 OPEN £2:S$,INTERNAL,INPUT ,FIXED 192
```

```
1890 INPUT £2:O,NT,F$,D$,LSIZE
1900 IF O=OPT THEN 2000
1910 IF O=2 THEN 1940
1920 PRINT ::"FILE IS A PHONE BOOK TYPE"::
1930 GOTO 1950
1940 PRINT ::"FILE IS AN INVENTORY TYPE"::
1950 PRINT "PROCEDE (Y/N)?"
1960 GOSUB 2750
1970 IF KEY<>78 THEN 1990
1980 RETURN
1990 IF KEY<>89 THEN 1960
2000 OPT=O
2010 N=NT
2020 IF OPT=1 THEN 2060
2030 RESTORE 3890
2040 GOSUB 3850
2050 GOTO 2080
2060 RESTORE 3880
2070 GOSUB 3850
2080 PRINT ::F$::"LSIZE(3800)=";LSIZE::"LAST UPDATE: ";D$::
2090 FOR I=1 TO N
2100 INPUT £2:A$(1,I),A$(2,I),A$(3,I),A$(4,I),A$(5,I)
2110 NEXT I
2120 IF DEV=1 THEN 2150
2130 FOR TD=1 TO 1000
2140 NEXT TD
2150 CLOSE £2
2160 RETURN
2170 REM  SAVE DIRECTORY
2180 IF FLAG2=0 THEN 2200
2190 GOSUB 2450
2200 PRINT "ENTER 1. CS1"
2210 PRINT "      2. DSK1"
2220 PRINT "      3. OTHER"::::
2230 INPUT "YOUR CHOICE?":ANS
2240 IF (ANS<1)+(ANS>3)THEN 2200
2250 ON ANS GOTO 2260,2280,2340
2260 S$="CS1"
2270 GOTO 2350
2280 INPUT "ENTER FILE NAME: DSK1.":N$
2290 IF LEN(N$)<11 THEN 2320
2300 PRINT "ENTER NO MORE THAN TEN      LETTERS PLEASE."
2310 GOTO 2200
2320 S$="DSK1."&N$
2330 GOTO 2350
2340 INPUT "ENTER DEVICE NAME.":S$
2350 INPUT "ENTER DATE.":D$
2360 OPEN £3:S$,INTERNAL,OUTPUT,FIXED 192
2370 PRINT £3:OPT,N,S$,D$,LSIZE
2380 FOR I=1 TO N
2390 PRINT £3:A$(1,I),A$(2,I),A$(3,I),A$(4,I),A$(5,I)
2400 NEXT I
2410 CLOSE £3
2420 FLAG1=0
2430 RETURN
2440 REM  SORTING ROUTINE
2450 PRINT "SORT BY WHICH FIELD:"
2460 FOR Z=1 TO 5
2470 PRINT Z;". ";C$(Z)
2480 NEXT Z
2490 INPUT F
2500 IF (F<1)+(F>5)THEN 2450
2510 FLAG2=0
2520 CALL SOUND(100,800,6)
2530 PRINT :::" ***** SORTING DATA *****":::
2540 FOR I=1 TO N-1
2550 FOR J=N TO I+1 STEP -1
2560 IF A$(F,I)<=A$(F,J)THEN 2580
2570 GOSUB 2630
2580 NEXT J
2590 IF A$(F,I)<>A$(F,I+1)THEN 2610
2600 I=I+1
2610 NEXT I
2620 RETURN
2630 FOR Z=1 TO 5
2640 O$(Z)=A$(Z,I)
2650 A$(Z,I)=A$(Z,J)
2660 A$(Z,J)=O$(Z)
2670 NEXT Z
2680 RETURN
2690 REM  CLEAR & SET SCREEN
2700 CALL CLEAR
2710 CALL SCREEN(SC)
2720 RETURN
2730 REM  KEY RETURN
2740 PRINT ::"PRESS ANY KEY TO CONTINUE"
2750 CALL KEY(0,KEY,STATUS)
2760 IF STATUS=0 THEN 2750
2770 RETURN
2780 REM  UTILITY PROGRAMS
2790 IF OPT=1 THEN 2940
2800 SUM=0
2810 FOR I=1 TO N
2820 SUM=SUM+VAL(A$(2,I))
2830 NEXT I
2840 PRINT "TOTAL COST OF ALL THE ITEMS":::
2850 PRINT ::::TAB(10);SUM:::::::::
2860 CALL HCHAR(11,7,36,18)
2870 CALL HCHAR(19,7,36,18)
2880 CALL VCHAR(12,7,36,7)
2890 CALL VCHAR(12,24,36,7)
2900 GOSUB 2730
2910 RETURN
2920 REM  DIAL PHONE
2930 REM  CLOCK TIME DELAYS FOLLOW
2940 GOSUB 1430
2950 IF M$="" THEN 3200
2960 CALL CLEAR
2970 H=23
2980 V=8
2990 T$=A$(2,M)
3000 L=LEN(T$)
3010 PRINT A$(1,M):A$(2,M):A$(3,M):A$(4,M):A$(5,M)::::
3020 IF L<10 THEN 3050
3030 L=L+1
3040 T$="1"&T$
3050 FOR J=1 TO L
3060 P$=SEG$(T$,J,1)
3070 CALL HCHAR(H,V,ASC(P$))
```

```
3290 RETURN
3300 REM  STOP WATCH
3310 MN=0
3320 SEC=0
3330 CALL HCHAR(23,25,58)
3340 CALL SOUND(5,660,0)
3350 CALL SOUND(900,44000,30)
3360 IF MN>9 THEN 3400
3370 CALL HCHAR(23,23,48)
3380 CALL HCHAR(23,24,ASC(STR$(MN)))
3390 GOTO 3420
3400 CALL HCHAR(23,23,ASC(STR$(MN)))
3410 CALL HCHAR(23,24,ASC(SEG$(STR$(MN),2,1)))
3420 IF SEC>9 THEN 3460
3430 CALL HCHAR(23,26,48)
3440 CALL HCHAR(23,27,ASC(STR$(SEC)))
3450 GOTO 3480
3460 CALL HCHAR(23,26,ASC(STR$(SEC)))
3470 CALL HCHAR(23,27,ASC(SEG$(STR$(SEC),2,1)))
3480 SEC=SEC+1
3490 IF SEC<60 THEN 3520
3500 SEC=0
3510 MN=MN+1
3520 CALL KEY(0,K,S)
3530 IF S=0 THEN 3340
3540 IF K=82 THEN 2960
3550 RETURN
3560 REM  COMPLETE LISTING ON PRINTER
3570 ST$=PS$
3580 M$="ENTER DEVICE NAME:            "&PS$
3590 INPUT M$:PS$
3600 IF PS$<>"" THEN 3630
3610 PS$=ST$
3620 IF PS$="" THEN 3770
3630 PRINT "IS ";PS$;" READY?(Y/N)"
3640 GOSUB 2750
3650 IF KEY<>89 THEN 3770
3660 OPEN £3:PS$,OUTPUT
3670 T=INT(N/9)
3680 FOR J=0 TO T
3690 FOR M=1 TO 9
3700 I=9*J+M
3710 PRINT £3:TAB(5);I;")";TAB(10);A$(1,I):TAB(10);A$(2,I):TAB(10);A$(3,I):TAB(1
0);A$(4,I):TAB(10);A$(5,I)::
3720 IF I=N THEN 3760
3730 NEXT M
3740 GOSUB 2730
3750 NEXT J
3760 CLOSE £3
3770 RETURN
3780 PRINT "DO YOU WISH TO HALT THE     PROGRAM AND LOSE ALL DATA INMEMORY? (Y/N
)"
3790 CALL KEY(0,K,S)
3800 IF S=0 THEN 3790
3810 IF K=78 THEN 750
3820 IF K<>89 THEN 3770
3830 CALL CLEAR
3840 END
3850 READ C$(1),C$(2),C$(3),C$(4),C$(5)
3860 RETURN
3870 DATA 697,770,852,1210,1340,1481
3880 DATA NAME:,PHONE:,ADDRESS:,CITY:,STATE&ZIP:
3890 DATA ITEM :,VALUE :,LOCATION :,DATE PURCHASED :,SER £ OR ID :
```

```
3080 V=V+1
3090 IF ASC(P$)<48 THEN 3190
3100 IF ASC(P$)>57 THEN 3190
3110 T=VAL(P$)
3120 IF T<>0 THEN 3150
3130 CALL SOUND(300,941,0,1336,2)
3140 GOTO 3180
3150 I=INT((T-1)/3)+1
3160 IJ=T-3*(I-1)
3170 CALL SOUND(300,P1(I),0,P2(IJ),2)
3180 CALL SOUND(250,44000,29)
3190 NEXT J
3200 PRINT ::"PRESS ":"     R TO REDIAL";"     S TO START STOPWATCH";"     N
FOR NEW NUMBER"
3210 GOSUB 2730
3220 IF KEY=82 THEN 2960
3230 IF KEY=78 THEN 2940
3240 IF KEY<>83 THEN 3290
3250 CALL HCHAR(14,1,32,320)
3260 PRINT :"HOLD DOWN ":"R TO DIAL AGAIN":"ANY KEY TO RETURN TO MENU":::
3270 GOSUB 3310
3280 IF T=82 THEN 2940
```

ADDIZIONE, SOTTRAZIONE, MOLTIPLICAZIONE, DIVISIONE, PERCENTUALE, RADICE QUADRATA, RAPPORTO IN % TRA 2 NUMERI, MEDIA

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Basic

```
10 DATA 0000003848483400,0040407048483000,0000003840403800,0008083848483400,0000
1C223C201C,0018282038202000
20 DATA 0000384848380830,0020203824242400,0010003010103800,0010003010105020,0040
5060504800,0030101010103800
30 DATA 0000006C54545400,0000007848484800,0000003048483000,0000705848704040,0038
4848380808,0000002830202000
40 DATA 0000182038083000,0010103810101800,0000004848483400,0000002424281000,0000
4454542800,0000002810282800
50 DATA 0000004848301020,0000003810203800
60 RESTORE 10
70 FOR Z0=65 TO 90
80 READ Z$
90 CALL CHAR(Z0,Z$)
100 NEXT Z0
110 CALL CLEAR
120 DIM A(100),L(100)
130 PRINT "      CALCOLATRICE":::
140 PRINT "1. ADDIZIONE-SOTTRAZIONE":"2. MOLTIPLICAZIONE":"3. DIVISIONE"
150 PRINT "4. PERCENTUALE":"5. RADICE QUADRATA ":"6. RAPPORTO IN % TRA 2 NUM.":"
7. MEDIA":
160 PRINT "8. OPERAZIONI COMBINATE":"9. FINE":
170 CALL KEY(0,KK,ST)
180 IF ST=0 THEN 170
190 IF (KK<49)+(KK>57)THEN 170
200 KKK=KK-48
210 ON KKK GOTO 220,550,670,780,900,980,1070,1250,1710
220 CALL CLEAR
230 PRINT TAB(9);"ADDIZIONE":::
240 PRINT "PER LA SOTTRAZIONE DEVI FAR PRECEDERE IL NUMERO DA SOT- TRARE IL SEGN
O (-).":::
250 KK=100
260 B=0
270 FOR K=1 TO KK
280 PRINT "NUMERO.";K;
290 INPUT A(K)
300 IF A(K)=0 THEN 330
310 B=B+A(K)
320 NEXT K
330 FOR K=1 TO KK
340 IF A(K)=0 THEN 370
350 PRINT TAB(20-LEN(STR$(A(K))));A(K)
360 NEXT K
370 PRINT "----------------------------":"TOTALE=";TAB(20-LEN(STR$(B)));B
380 PRINT :"voui rivedere il conto?(s/n)"
390 GOSUB 1210
400 GOTO 410
410 FOR K=1 TO KK
420 IF A(K)=0 THEN 370
430 PRINT :"NUM.";K;TAB(20-LEN(STR$(A(K))));A(K)
440 PRINT "vuoi modificare ? (s/n)":
450 CALL KEY(0,S,SS)
460 IF SS=0 THEN 450
470 IF S=78 THEN 530
480 IF S<>83 THEN 450
490 B=B-A(K)
500 PRINT :"NUVO NUM. ";
510 INPUT A(K)
520 B=B+A(K)
530 NEXT K
540 GOTO 370
550 CALL CLEAR
560 PRINT "      MOLTIPLICAZIONE"::::
```

```
570 FOR K=1 TO 2
580 INPUT "NUMERO ":X(K)
590 NEXT K
600 PRINT TAB(20-LEN(STR$(X(1))));X(1);"X"
610 PRINT TAB(20-LEN(STR$(X(2))));X(2)
620 Y=X(1)*X(2)
630 PRINT "----------------------------":"TOTALE=";TAB(20-LEN(STR$(Y)));Y
640 PRINT ::"ANCORA MOLTIPLICAZINI (S/N)?"
650 GOSUB 1210
660 GOTO 550
670 CALL CLEAR
680 PRINT "    DIVISIONE"::::
690 FOR K=1 TO 2
700 INPUT "NUMERO ":N(K)
710 NEXT K
720 NN=N(1)/N(2)
730 PRINT TAB(15);N(1);":";N(2)
740 PRINT "----------------------------":"TOTALE=";TAB(20-LEN(STR$(NN)));NN
750 PRINT ::"ANCORA DIVISIONI (S/N) ?"
760 GOSUB 1210
770 GOTO 670
780 CALL CLEAR
790 PRINT "   PERCENTUALE":::
800 INPUT "NUMERO ":NU
810 INPUT "PERC. % ":P
820 TOT=NU*P/100
830 TOT1=NU+TOT
840 TOT2=NU-TOT
850 PRINT "----------------------------":"IL ";P;"% DI";NU;"E' ";TOT
860 PRINT ::"%  AGGIUNTA    =";TOT1:"%  SOTTRATA    =";TOT2::
870 PRINT "ANCORA (S/N) ?":
880 GOSUB 1210
890 GOTO 780
900 CALL CLEAR
910 PRINT "    RADICE QUADRATA":::
920 INPUT "NUMERO ":Q
930 W=SQR(Q)
940 PRINT :"LA RADICE QUADRATA DI";Q;"E'"::W:"---------------"
950 PRINT ::"ANCORA S/N)?";
960 GOSUB 1210
970 GOTO 900
980 CALL CLEAR
990 PRINT "RAPPORTO TRA 2 NUMERI IN %"::
1000 INPUT "1.NUMERO.":A1
1010 INPUT "2.NUMERO.":A2
1020 A3=A1/A2*100
1030 PRINT ::"IL RAPPORTO FRA";A1;"E";A2:"E' DEL ";A3;"%"::
1040 PRINT "ANCORA (S/N) ?"
1050 GOSUB 1210
1060 GOTO 980
1070 CALL CLEAR
1080 PRINT "   MEDIA"::
1090 Q=0
1100 FOR K=1 TO 100
1110 PRINT "NUM.";K;"=";
1120 INPUT L(K)
1130 Q=Q+L(K)
1140 IF L(K)=0 THEN 1160
1150 NEXT K
1160 ME=Q/(K-1)
1170 PRINT :"LA MEDIA E'=";ME
1180 PRINT ::"ANCORA (S/N)"
1190 GOSUB 1210
1200 GOTO 1070
1210 CALL KEY(0,K,S)
```

```
1220 IF S=0 THEN 1210
1230 IF K=83 THEN 1240 ELSE 110
1240 RETURN
1250 CALL CLEAR
1251 PRINT "BATTI <0> PER RICOMINCIARE  OPERAZIONI.                    BATTI <f> PE
R TORNARE AL    TITOLO":::
1260 PRINT "N.";
1270 INPUT AA
1280 PRINT TAB(23-LEN(STR$(AA)));AA
1290 CALL SOUND(50,345,0)
1300 CALL KEY(0,KKK,SSS)
1310 IF SSS=0 THEN 1300
1320 IF KKK=43 THEN 1390
1330 IF KKK=45 THEN 1460
1340 IF KKK=47 THEN 1530
1350 IF KKK=42 THEN 1600
1355 IF KKK=37 THEN 1701
1360 IF KKK=70 THEN 110
1370 IF KKK=48 THEN 1250
1380 GOTO 1300
1390 CALL HCHAR(23,26,43)
1400 PRINT "N.";
1410 INPUT NN
1420 GOSUB 1690
1430 AA=AA+NN
1440 GOSUB 1670
1450 GOTO 1290
1460 CALL HCHAR(23,26,45)
1470 PRINT "N.";
1480 INPUT NN
1490 GOSUB 1690
1500 AA=AA-NN
1510 GOSUB 1670
1520 GOTO 1290
1530 CALL HCHAR(23,26,58)
1540 PRINT "N.";
1550 INPUT NN
1560 GOSUB 1690
1570 AA=AA/NN
1580 GOSUB 1670
1590 GOTO 1290
1600 CALL HCHAR(23,26,120)
1610 PRINT "N.";
1620 INPUT NN
1630 GOSUB 1690
1640 AA=AA*NN
1650 GOSUB 1670
1660 GOTO 1290
1670 CALL HCHAR(23,26,61)
1671 PRINT "------------------------":TAB(23-LEN(STR$(AA)));AA
1680 RETURN
1690 A$=STR$(NN)
1691 FOR K=1 TO LEN(A$)
1692 CALL HCHAR(23,25-LEN(A$)+K,ASC(SEG$(A$,K,1)))
1693 NEXT K
1700 RETURN
1701 CALL HCHAR(23,26,37)
1702 PRINT "N.";
1703 INPUT NN
1704 GOSUB 1690
1705 AA=AA*NN/100
1706 GOSUB 1670
1707 GOTO 1290
1710 END
```

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BASIC

```
100 CALL CLEAR
110 PRINT "SIMULAZIONE DEL LOTTO"
120 DIM T(6)
130 RANDOMIZE
140 INPUT "NUMERO DEI GIOCATORI (1 A 8) ":NJ
150 DIM N(8),P(8,6)
160 REM
170 PRINT
180 FOR J=1 TO NJ
190 PRINT "GIOCATORE N. ";J
200 FOR I=1 TO 6
210 INPUT "DAMMI UN NUMERO (DA 1 A 90) ":P(J,I)
220 IF P(J,I)<1 THEN 210
230 IF P(J,I)>90 THEN 210
240 NEXT I
250 PRINT
260 NEXT J
270 REM
280 CALL CLEAR
290 PRINT :"GIRO "
300 FOR I=1 TO 6
310 CALL SOUND(100,110*I,5)
320 T(I)=INT(RND*90)+1
330 IF I=1 THEN 370
340 FOR D=1 TO I-1
350 IF T(I)=T(D)THEN 320
360 NEXT D
370 PRINT T(I);" ";
380 NEXT I
390 REM
400 PRINT :"CLASSIFICA":"GIOCATORE   BONUS A NOI"
410 PRINT
420 FOR J=1 TO NJ
430 N(J)=0
440 FOR I=1 TO 6
450 FOR K=1 TO 6
460 IF P(J,K)<>T(I)THEN 480
470 N(J)=N(J)+1
480 NEXT K
490 NEXT I
500 NEXT J
510 REM
520 FOR L=1 TO NJ
530 MAX=-1
540 FOR J=1 TO NJ
550 IF N(J)<=MAX THEN 580
560 MAX=N(J)
570 PO=J
580 NEXT J
590 PRINT PO;
600 FOR I=1 TO 6
610 PRINT " ";STR$(P(PO,I));
620 NEXT I
630 PRINT TAB(24);N(PO)
640 N(PO)=-1
650 NEXT L
660 REM
670 PRINT
680 INPUT "ANCORA ?(S/N) ":R$
690 IF R$="S" THEN 140
700 IF R$<>"N" THEN 680
710 END
```

```
10 CALL CLEAR :: PRINT RPT$("*",28):TAB(9);"INTEGRALE":TAB(6);"DI CONVOLUZIONE":
RPT$("*",28)
20 PRINT :: PRINT "IMPOSTARE G=G(T) A PARTIRE  DALL'ISTRUZIONE 1000"
30 PRINT :"IMPOSTARE U=U(T) A PARTIRE  DALL'ISTRUZIONE 2000"
40 PRINT :"PER ESEGUIRE IL CALCOLO     SCRIVERE RUN 100"
50 PRINT :"PREMERE ENTER PER SOSPENDEREIL CALCOLO"
60 STOP
100 CALL CLEAR :: INPUT "INTERVALLO DI VISUALIZZAZIO_NE [SEC] ":DT :: N=2 :: H=D
T/2
110 DIM VG(200),VU(200),VY(100)
120 CALL U(0,VU(0)):: CALL G(0,VG(0)):: VY(0)=0 :: PRINT 0,0
130 I=0 :: CALL G((N-1)*H,VG(N-1)):: CALL G(N*H,VG(N)):: CALL U((N-1)*H,VU(N-1))
:: CALL U(N*H,VU(N))
140 FOR K=1 TO N-1 STEP 2 :: I=I+4*VG(N-K)*VU(K):: NEXT K
150 FOR K=2 TO N-2 STEP 2 :: I=I+2*VG(N-K)*VU(K):: NEXT K
160 I=I+VG(N)*VU(0)+VU(N)*VG(0):: I=I*H/3 :: VY(N/2)=I
170 PRINT N*H,I
180 N=N+2 :: IF N>200 THEN STOP
190 CALL KEY(3,KEY,ST):: IF KEY=13 THEN 190 ELSE 130
1000 REM IMPOSTARE LA FUNZIONE G(T)
1010 SUB G(T,G)
1030 SUBEND
2000 REM IMPOSTARE LA FUNZIONE U(T)
2010 SUB U(T,U)
2030 SUBEND
```


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